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Amateur



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We've all seen the 'no flash photography' signs inside churches, temples and other historic buildings. It presents the serious photographer with a lighting challenge, as amazing interiors are something we all want to photograph. To help you avoid noisy, low-resolution images, we share some practical tips for using high-ISO settings and fast lenses to deal with interiors

in this issue – tips you'll find useful whether you are shooting in Canterbury or Cambodia.

We also share the fascinating story of the Wrayflex: Britain's first (and last) SLR. It's a cautionary tale and an inspiring one, as is the story of top 20th-century photographer, Lee Miller (page 20). Canon users will want to check out our review of Samyang's keenly priced new prime on page 43. Enjoy the issue! **Nigel Atherton, Editor**

In this issue

8 The liberation of Mosul

The story behind photojournalist Ivor Prickett's front-line images

14 Take the high road

Steve Davey shares his expertise on using high ISO in low-light interiors

20 The surreal truth

We talk to Antony Penrose, the son of photographer Lee Miller, about her key role in the British surrealist movement

26 Photo insight

David Tipling explains how he captured a striking avian photograph

28 Behind the scenes: Bodiam Castle

AP joined the Panasonic LUMIX Roadshow at this National Trust property

32 Lightroom tips

Pro James Paterson shows how to get white balance and colour correction right

36 Britain's first (and last) 35mm SLR

John Wade recounts the fascinating story of the Wrayflex camera

43 Samyang AF 85mm f/1.4 EF

Michael Topham reviews this fast and affordable short telephoto prime lens

Regulars

3 7 days

24 Inbox

46 Accessories

49 Tech Talk

66 Final Analysis

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ONLINE PICTURE OF THE WEEK



© HENRIK SPRANZ

Alpine marmot by Henrik Spranz

Canon 5D Mark III, 400mm, 1/1600 sec at f/4, ISO 800

This shot of an alpine marmot was uploaded to our Twitter page using the hashtag #appicoftheweek. It was taken by photographer Henrik Spranz. He tells us, 'I'm a big fan of many rodents like European ground squirrels, red squirrels, coypus, European hamsters and the alpine marmots. Most of the time I want to

achieve some dreamy look by getting a very low point of view for blurring the foreground. Patience is essential to capture special moments and expressions in the wildlife genre – even if these marmots here are more used to humans and let you come closer than in other places.'



Win! Each week we choose our favourite picture on Facebook, Instagram, Flickr, Twitter or the reader gallery using #appicoftheweek. PermaJet proudly supports the online picture of the week winner, who will receive a top-quality print of their image on the finest PermaJet paper*. It is important to bring images to life outside the digital sphere, so we encourage everyone to get printing today! Visit www.permajet.com to learn more.

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Via our online communities Post your pictures into our Flickr group, Facebook page, Twitter feed, or the gallery on our website. See details above.

Transparencies/prints Well-packaged prints or slides (without glass mounts) should be sent by Special Delivery, with a return SAE, to the address on page 24.



BIG picture

Unseen Rory Lewis portraiture work on display at Wex

A NEW body of work from celebrated British portrait photographer Rory Lewis has gone on show at the Wex Photo Video gallery in Whitechapel, London.

Entitled 'Portraitist', the free exhibition runs until 30 September and features 24 previously unseen photographs of distinguished actors

and high-profile public figures including Sir Patrick Stewart, Sir Ian McKellen, David Bamber, Tobias Menzies, William Shatner, Rufus Sewell and Tony Amendola (pictured).

Rory says, 'So much of the portraiture commissioned in the press and print industry is reluctant to rake risks, and I try to challenge that safety. When I'm working with an actor, I like them to act. I'm always waiting for that moment of spontaneity in expression.'

NEWS ROUND-UP

This week in brief, edited by Geoff Harris



Get animating with PhotoMirage

PhotoMirage, a Windows program that animates a single photo to create a GIF, WMV or MP4, has been released by Corel. Rather than using AI, PhotoMirage places points over an image, which are then animated – clouds in a landscape or water, for example (the anchor points tell the software which pixels to leave still). The software is compatible with raw images as well as JPEG and TIFF. You can get a free trial of PhotoMirage at www.photomirage.io/en/

Nikon mirrorless countdown

As mentioned in last week's AP, Nikon has revealed that it is working on a new, full-frame mirrorless system. The company has confirmed that the camera will employ a new lens mount, with an adapter for F-mount SLR lenses in the pipeline, and that it's still committed to making DSLRs. There's a live countdown to the global launch on 23 August at <http://bit.ly/nikoncountdown>.



New drone laws in force, more coming

At the same time as new drone laws come into force, requiring drones weighing over 250g to be registered with the Civil Aviation Authority and users to prove they understand drone safety, the government has announced a further consultation. Leading maker, DJI, has welcomed the move, while citing three incidents where police have used drones to help find missing people in danger.



'Poverty porn' row erupts on Instagram

When the World Press Photo (WPP) awards asked Italian photographer Alessio Mamo to curate its Instagram account for a week recently, controversy soon followed. Mamo has been widely attacked for uploading clearly staged images in order to dramatise the issue of hunger in India. See www.instagram.com/worldpressphoto.

© RORY LEVINS

SOURCE: WWW.DRONEVIEW.COM

Words & numbers

The personality of the photographer, his approach, is really more important than his technical genius

Lee Miller

American fashion model turned photographer and photojournalist (1907-1977). See page 20.

91

Number of countries from which entries were received for the Insight Investment Astronomy POTY 2018

The original darkroom window can still be seen at Bromley House, along with other studio fixtures



© GEOFF HARRIS

Historic photo studio to get new lease of life

WHEN one thinks of the first photographic studios in the UK, famous epicentres such as London and Lacock come to mind, but not usually Nottingham. In fact, Bromley House Library, close to the iconic Old Market Square, houses one of the first commercial photo studios in the UK, set up by Alfred Barber in 1841. The library, which holds the historic Pauline Heathcote photography archive and a small collection of rare cameras, has announced a major

refurbishment programme. 'We intend to strengthen the narrative of the photographic exhibits, by bringing the information together in one room and using interpretation panels and rotating exhibitions,' explains Melanie Duffill-Jeffs, Director of Bromley House Library.

Sadly, things didn't go so well for the pioneering Barber, whose establishment was one of only six daguerreotype studios in the country. He charged one guinea

(around £1) for a 2x2.5in daguerreotype in a case, equivalent to a week's wages for a manual worker and beyond the means of most of the city. Only about 500 were sold, which failed to cover the daguerreotype license instalments, and following legal tussles, he left Nottingham. Other pioneering photographers took over the space, including one Sylvanus Redgate, who cashed in on the craze for 'carte de visite': sepia-toned prints pasted onto small cards.

Even before the refurbishment concludes, it's well worth visiting Bromley House as it occupies a pre-eminent position in British photographic history. As AP's Geoff Harris discovered, the attic rooms, which were virtually in continuous use for photography from 1841 to 1955, are materially little altered.

Guided tours of the darkroom and studio are available on Wednesday afternoons by appointment (email photo@bromleyhouse.org) and you can watch photographer-in-residence Jim Grainger taking ambrotype photographs. Keep up to date with developments at www.bromleyhouse.org.

Bromley House photo specialist, Eric Butler, runs free tours on Wednesdays



© GEOFF HARRIS



Feiyutech's G6 Plus gimbal features intelligent follow focus

Versatile new gimbal

GIMBAL maker Feiyutech has announced the G6 Plus, a lightweight all-in-one gimbal with intelligent follow focus and OLED display. The device has start and end points which can be set manually, along with the path of time-lapse photography in auto-rotation mode. Entering lock-mode enables you to adjust the pan and tilt axis in any angle.

Designed to allow an unlimited rotation angle of the pan axis and 35° angle for the vertical arm, the G6 Plus also features a new digital zoom button which enables users to zoom in or out, follow focus, change focus and control the three axis. The G6 Plus costs £269.99, and is on sale at leading retailers.



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Get prints from your smartphone for £40

JAPANESE firm Tomy has launched a smartphone picture printer called KiiPix. This ingeniously simple device doesn't need an app to be installed on your phone, a network connection or even a battery – and it costs just £40. Essentially, it's a simple camera that takes photographs of your phone's screen onto Fujifilm Instax Mini instant film, with the print ejected after exposure using a hand-powered crank. Film packs have to be bought separately, and cost around £15 for 20 prints.

In principle the Tomy KiiPix should work with smartphones of any screen size, with the phone placed face-down onto a mask that defines the print area, using an 8.6x5.4cm opening. In practice, this is a good match for smartphones with 4.7in screens, but will mean some cropping of the image with larger-screen devices,

while small 4in phones such as the iPhone SE won't quite fill the entire print area.

When not in use, KiiPix folds down to a 14.3x11.2x5.3cm package (excluding the film-ejection knob), with the print mask neatly stored inside.

KiiPix will go on sale in August with a price of £39.99. It will be available in black, blue or pink, and is advertised as suitable for ages 14 years plus.

The KiiPix printer doesn't need an app, battery or network connection



Astro POTY shortlist announced

THE SHORTLIST for the Insight Investment Astronomy Photographer of the Year 2018 has been revealed, with a particularly strong crop of pictures this year. The long-running competition is open to amateurs and professional photographers alike, who sent in over 4,200 entries from 91 countries.

The topic ranged from a magical mosaic of the Great Orion and Running Man Nebula, the aurora borealis exploding over the south coast of Iceland and a solar transit of the International Space Station.



Milky Way just before moonrise over Cable Bay, New Zealand

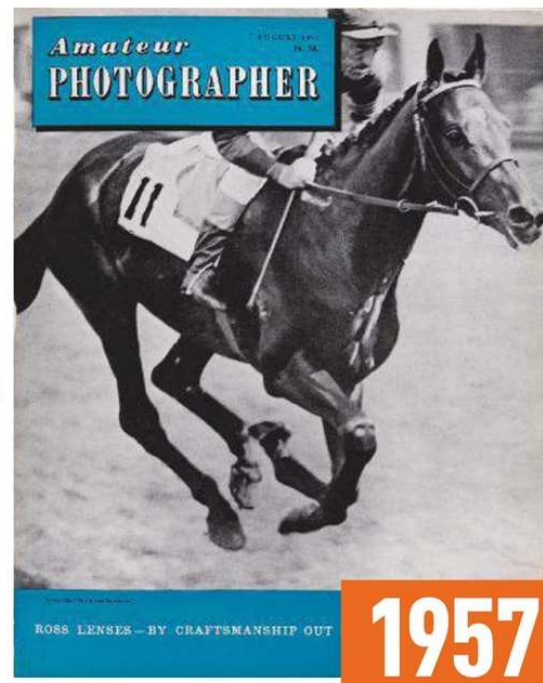
Winners are to be announced on 23 October and the exhibition opens on the 24th at the National

Maritime Museum. See www.rmg.co.uk/royal-observatory and next week's issue for more.

Back in the day

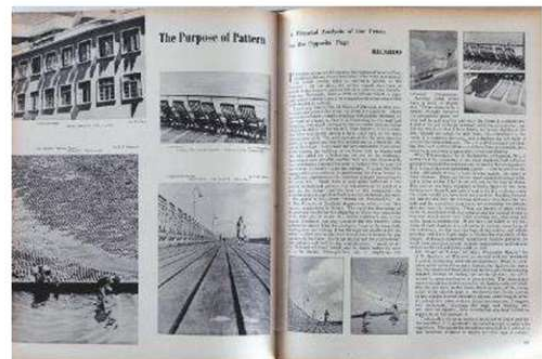
A wander through the AP archive.

This week we pay a visit to August 1957



AFTER a run of rum covers featuring scantily clad cover models from the 1970s and 1980s, it's good to go back to the solid and respectable 1950s this week. No sex please, we're British, but horse racing is much more like it. This image wouldn't make the cover cut these days as the editors wouldn't think it's razor-sharp enough, but this wasn't so much of a concern in the pre pixel-peeping age; it was more about the overall impact of an action scene (and some would say this was a more sensible way of judging a picture). There is some really good content inside this issue, including a thoughtful editorial on the difference between a snapshot and a 'proper' photographic print. As the then-editor noted with magisterial disdain: 'Nothing is more irritating than to hear a judge condemn a print as he couldn't live with it (some people might not be able to live with him!)'

Meanwhile 'Ricardo' penned another still-relevant piece about the importance of looking for patterns and graphic shapes in your pictures. The test of time stood.



It's all about patterns, don't you know. Says 'Ricardo'

For the latest news visit www.amateurphotographer.co.uk

Photo Stories

The liberation of Mosul

AP tells the story behind photojournalist **Ivor Prickett's** World Press Photo Award-winning portfolio on the front-line fight against ISIS

On 10 July, 2017 the Iraqi government declared the city of Mosul to be fully liberated from ISIS, although fierce fighting still continued in pockets of the city. Mosul had fallen to ISIS three years earlier and the battle to retake it took eight months. Irish photojournalist Ivor Prickett was on the front line reporting for *The New York Times*. His powerful portfolio won the prestigious General news: Stories category at this year's World Press Photo and two of his images from the set were nominated for image of the year.

'The retaking of Mosul in effect had two parts,' explains Ivor. 'The battle for the eastern half of the city, and the battle for the west, across the Tigris River. East Mosul was retaken by January but the offensive on the more built-up west, around the Old City, proved more difficult.'

Large areas of Mosul were left in ruins and according to the UN there were at least 4,192 civilian casualties, though many believe the figure to be much higher as ISIS frequently took civilian hostages to use as human shields.

Ivor was able to get right in the thick of the action because, working for *The New York Times*, he was able to be embedded with the Iraqi Security Forces.

'It's really the only way you can cover the fighting on the front line,' he says. 'They were really the tip of the spear for ground operations in Mosul, backed by the Coalition with air support. They were operating in the most dangerous front-line positions.'

A veteran of conflict photography in the Middle East, Ivor had previously photographed the battle for Aleppo in Syria, but this was different.

'On the one hand I was fortunate to be able to embed with a fully mechanised armed force in the form of the Iraqi Forces, instead of being with a rebel force like that in Aleppo, so in some ways I felt safer. But at the same time, the level of brutality and urban combat in

Mosul was unprecedented for me. ISIS pioneered ways of destruction and killing people that had never been seen before; using commercial drones to drop munitions, driving suicide car bombers towards forces on the ground. The dangers were multifold and new. So it was incredibly dangerous.'

One of his most powerful images depicts the rescue of a small boy from the ruins, and the story perfectly illustrates the ambiguity that soldiers on the ground are often faced with when the enemy doesn't wear a uniform and is difficult to identify.

'The child was carried out of the last remaining ISIS stronghold in the Old City by a man who had just picked him up and didn't know who [the boy] was. It was suspected that he was an ISIS fighter who was just using the boy as a human shield and as a means of getting out of the killing zone. So the soldiers I was with were just left with this boy who was too young and traumatised to speak. The commander on the spot just said that one of his men was to be responsible for taking care of the boy. So they washed him, cleaned his clothes, and cared for him. The picture I took (see bottom right) was of the moment when the boy finally felt some peace and rested his head on the soldier's shoulder and closed his eyes. I felt it really summed up that moment; when it caused everyone to forget what was going on for a minute.'

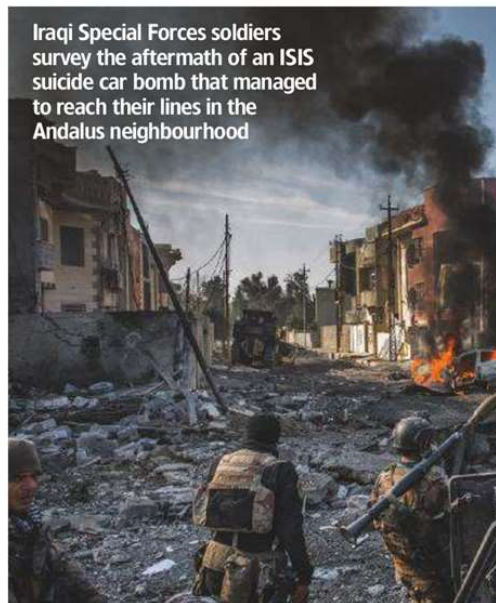
Ivor's images from Mosul have been widely published in *The New York Times*, but unusually he has also written the accompanying reports.

'When my editor asked me to start writing, and adding words to my pictures, it was a big challenge,' admits Ivor. 'It was pretty daunting. But it became an empowering tool for me as a photographer to give more context to the pictures I was taking; some of the things I was seeing were quite difficult to fully explain in a single picture. So writing has become part of the process for me.'

IMAGES © IVOR PRICKETT/THE NEW YORK TIMES



Nadhira Aziz looks on as Iraqi Civil Defence workers dig out the bodies of her sister and niece from her house



Iraqi Special Forces soldiers survey the aftermath of an ISIS suicide car bomb that managed to reach their lines in the Andalus neighbourhood

Cork-born documentary photographer Ivor Prickett has been based in the Middle East ever since 2009. His work has been recognised through a number of prestigious awards and his pictures have been exhibited widely. See www.ivorprickett.com.

IVOR'S KIT



Most of Ivor's images, and all the ones featured here, were taken on a Canon EOS 5D Mark III, with a 24-70mm f/2.8L lens.



Civilians who remained in west Mosul, line up for an aid distribution in the Mamun neighbourhood. Those who chose to remain in the city initially relied on aid to survive



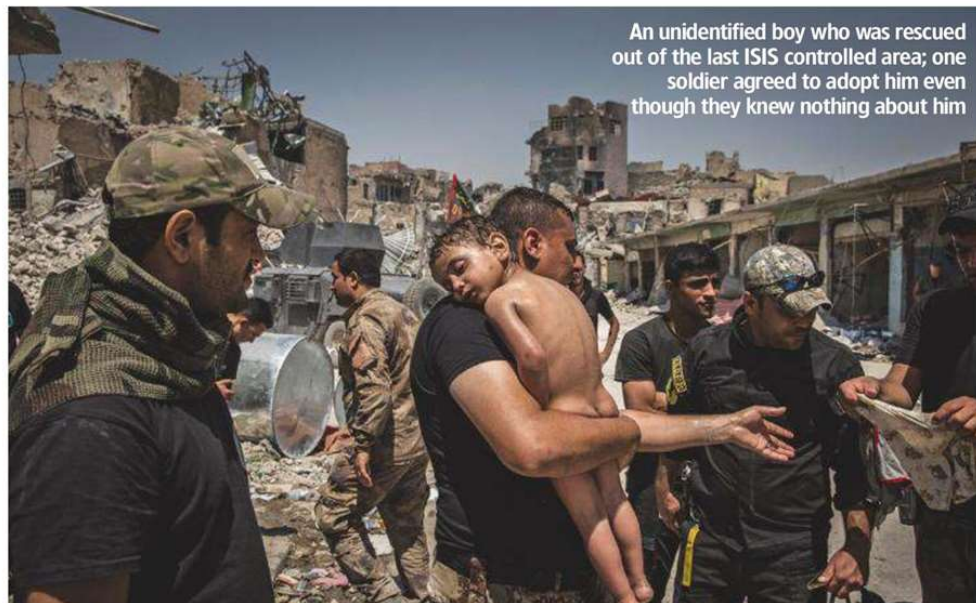
An Iraqi federal police officer running into the smoke after a suicide car bombing

© IVA PRICETT/TRANS PICTURES



An Iraqi Special Forces soldier firing on Islamic State militants from a defensive position in western Mosul

© IVA PRICETT/TRANS PICTURES



An unidentified boy who was rescued out of the last ISIS controlled area; one soldier agreed to adopt him even though they knew nothing about him



Viewpoint Michael Topham

Mirrorless cameras are smaller and lighter than DSLRs, but at what cost? Are we any closer to seeing camera manufacturers strike the perfect balance?

A few weeks ago I found myself shooting a series of portraits on the Kent coast while testing several lenses that had recently been sent in for review. One was the Sigma 85mm f/1.4 Art DG HSM in Sony E-mount – an astonishingly sharp portrait lens, but not exactly a compact or lightweight prime at 126.2mm long and weighing 1,130g. Removing the Sony FE 24-70mm f/4 ZA OSS from the Sony Alpha 7 III and replacing it with this Sigma prime turned what was a well-balanced camera and lens combination into a very front-heavy one. It put a lot more strain on my right hand than I'm used to and after a while the bottom corner of the handgrip started to dig into my palm. Meanwhile my left hand was offering some much-needed additional support at the front of the lens.

The need for good handling

Two hours of virtually non-stop shooting with this combination confirmed what has been a lasting impression of mine – Sony is yet to get the handling right with its Alpha 7-series cameras. There's the argument that Sony's VG-C3EM battery grip, which is compatible with the Alpha 7 III, Alpha 7R III and Alpha 9, makes a difference with heavy lenses, but what I'd really like to see from Sony going forward is a more positive intent on making its full-frame mirrorless cameras feel as rugged and pleasing in the hand as we've

come to expect from Canon and Nikon's professional full-frame DSLRs. We've already started to see other camera manufacturers release mirrorless cameras that are larger than preceding models.

Fujifilm's X-H1 and Panasonic's Lumix G9 are excellent examples of manufacturers listening to users and not worrying about a slight increase in size and weight. As I write this I have the Panasonic Lumix G1 – the first mirrorless camera – in front of me and its diminutive handgrip has nothing on the Panasonic Lumix G9's, which is wonderfully sculpted and large enough to wrap your fingers around for a good solid grasp. Of all the mirrorless cameras I've tested over the years, I think the Lumix G9's handgrip has to be the closest to perfection.

So we are beginning to see mirrorless camera manufacturers strike the perfect balance between size, weight and the way a camera feels in the hand. It's just that some have been more ballsy and less fretful about making their cameras larger than others. If Sony was to make a bigger, fully weatherproofed mirrorless camera that remained reasonably lightweight and felt as good in the hand as the images it's capable of producing, I'd be seriously tempted to switch from my trusty full-frame DSLR.

Michael Topham is Reviews Editor at *Amateur Photographer*. In his spare time he shoots sports and weddings. Visit www.michaeltopham.co.uk.



Sigma's 85mm f/1.4 in Sony E-mount adds serious bulk to Sony's Alpha 7-series cameras

Do you have something you'd like to get off your chest? Send us your thoughts in around 500 words to the address on page 24 and win a year's digital subscription to AP, worth £79.99

In next week's issue

On sale Tuesday 14 August



10 years of mirrorless

Andy Westlake looks at how mirrorless cameras have developed over the decade



Reflections on mirrorless

Four pros share their insights into the mirrorless systems they use

Make the most of mirrorless

Unleash the full potential of mirrorless with these tips from Angela Nicholson

Masters of mirrorless

A look at the strengths and weaknesses of today's mirrorless systems



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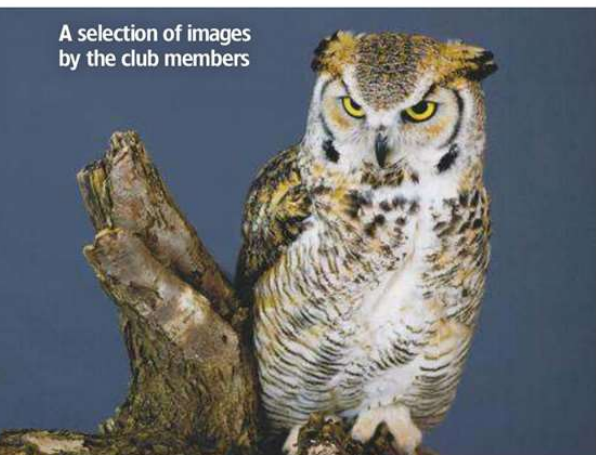
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A selection of images
by the club members



Join the Club

Birmingham Photographic Society

Longbridge, Birmingham

We take a close look at
a friendly club based
in The Midlands

When was the club founded?

The club was started in 2012 by a small group of friends who had an interest in photography and who wanted more opportunities to use their cameras and learn about different aspects of photography. Each member had different interests and specialities, and brought loads of great ideas to the group. From there it grew quite quickly into the amazing and diverse club we have today.

What does your club offer to new members?

Most of our club nights are practical in some way. They provide hands-on experience for members to progress their photography and learn how to use their cameras and other photographic equipment. Our members are all very friendly and are more than happy to help each other out.

Describe a typical club meeting.

Typically at each meeting we have a couple of stations set up for people to photograph, depending on the night's theme. These include studio model shoots, still-life set-ups, and sometimes we head out for some landscape shots. We tend to plan our nights to suit the time of year. Normally by the time you're home someone has posted one of their photographs from the night on our Facebook page.

Do you invite guest speakers?

Recently we have had some fascinating guest speakers, including Colin Trow-Poole FRPS, who specialises in black & white work, and Mike F Shaw.

What are the most popular photographic genres among your members?

From a recent survey it appears we have a vast range of interests among

our members, including portraits, street, landscapes, macro, motor sports, wildlife, still life, abstract and architecture. If you have an interest in a certain field there is bound to be someone else interested in it.

Do members compete in regional or national competitions?

We have recently started participating in the competitions run by the Midland Counties Photographic Federation, and hope to enter more in the future.

How many members do you have?

We currently have around 50 members, with the men outnumbering the women at roughly a 4:1 ratio. Ages range from 16 to 76 years. Everyone is welcome, regardless of age or level of knowledge. We have a number of keen members who turn up every week, but members are welcome to attend whenever they can.

Are any residential trips or outings planned?

We run a mixture of outings – from going out on a club night (recently we went up to Clent Hills in Worcestershire for some sunset shots and to a wonderful poppy field), to day trips and residential weekends away. We are currently planning a weekend trip to the Peak District; a trip to a local bird hide; and once the nights draw in, a night out for star photography. Hopefully we will get a chance to photograph the Birmingham Christmas Market again this year.

Do you have any funny stories about the club?

While away on one of our residential trips, we were photographing waterfalls. After we walked back up the hill to the cars we realised we were missing Eddie, one of our members. After 30 minutes of calling out, shouting and running back down to find him, he appeared as if nothing had happened along with two other members we hadn't realised were missing. We quickly learned to count people in and out on our trips!

What are the club's goals for the future?

We want to keep putting on interesting nights for our members and help them learn and take great images.

Club essentials

Meets Every Wednesday from 7-9pm, at 1577-1579 Bristol Road South, Longbridge, Birmingham B45 9UA

Membership Annual membership is £25; weekly fee is £3 for the nights attended

Contact Birmingham2016@outlook.com

Website www.birminghamphotographicsociety.co.uk



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Technique HIGH ISO

**Steve Davey**

Steve Davey is a travel photographer, whose work has taken him to over 90 countries around the world. Steve also leads his own series of travel photography tours to some of the most photogenic parts of the world. See www.bettertravelphotography.com.

Take the high road

Dimly lit interiors where you can't use flash or failing light outdoors can be a challenge. **Steve Davey** has high-ISO and gear solutions

1 Avoiding the shakes

As a travel or location photographer, you have to make the most of the light conditions that you encounter, and can often find yourself shooting in gloomy interiors. There are many places where using a tripod is not allowed or not practical, or you might not even have taken one on your travels. If you increase the ISO, your camera will need less light to achieve a correct exposure and you can therefore use a correspondingly faster shutter speed, so you can handhold without camera shake in these low-light situations.

2 It's not just about the shakes

Increasing the ISO is not just about avoiding camera shake: it is a creative tool, allowing you to use the shutter speed or aperture that you want, and you should get into the habit of adjusting it in the same way that you might adjust the shutter speed or aperture. Increasing the ISO by two stops might make the difference between a lacklustre 1/500sec and a motion-freezing 1/2,000sec. It can also be used to give you a couple of extra stops of aperture – significantly increasing the depth of field.

3 Be reasonable about what you can achieve

If you have an older camera, or a compact or bridge camera with a smaller sensor, then you probably won't have very good high ISO performance. You will also struggle to compete with expensive professional cameras that will cost many thousands of pounds. Bear this in mind, and don't be too critical of your pictures just because of noise. This will be generally less of an issue in your pictures than obvious camera shake. Don't be too self-critical. You might be able to zoom your images to 100% on a large computer monitor and see every blemish, but unless you print massive sized images, or crop to a tiny portion of the frame, it is very unlikely that anyone else will ever see the images at such large magnifications.



4 Avoid Auto ISO

Many photographers avoid using Auto ISO. If the shutter speed drops below a certain preset, the camera will increase the ISO to compensate. It won't help you to increase depth of field, or to force a super-fast shutter speed, though. It will also work against you if you try to quickly select a slow shutter speed for panning. Switch this function off and regain control over your camera settings.

ALL PICTURES © STEVE DAVEY





Tripods aren't always allowed, so you'll need to push your ISO and more importantly, know how far
Nikon D2X, 12-24mm, 1/40sec at f/4, ISO 250



Each ISO adjustment affects the shutter speed and aperture
Nikon D810, 14-24mm, 1/60sec at f/5.6, ISO 2500

5 Understanding the numbers

ISO is essentially the same scale as the old film ASA sensitivity scale – although unlike film, the superior ISO performance of modern digital cameras means that the numbers can be huge! Each doubling or halving of the ISO scale represents a doubling or halving of the amount of light needed to correctly expose the picture – which is defined in exposure terms as a stop. This increment is the same as a doubling or halving of the shutter speed, and each whole increment of aperture. This means that if you increase the ISO by two stops, you can correspondingly increase the shutter speed or aperture by the same amount.

As the scale involves doubling of numbers it only takes ten stops to get to six figures, but the difference between ISO 56,200 and ISO 112,400 is the same as the difference between ISO 100 and ISO 200.

6 Versatility of digital

Digital photography offers incredible versatility. Not only can you increase the ISO sensitivity to levels that were totally impossible with film, you can usually do so in increments of 1/3 stop and on a shot-by-shot basis, depending on the subject and the lighting conditions. You don't have to make massive changes to the ISO: sometimes just increasing it by a stop can be enough to make a difference.



Digital cameras enable you to adjust the ISO in 1/3 stop increments

Technique

High ISOs not only produce noise, they can also limit the dynamic range
Nikon D800, 24-70mm, 1/40sec at f/4, ISO 2500

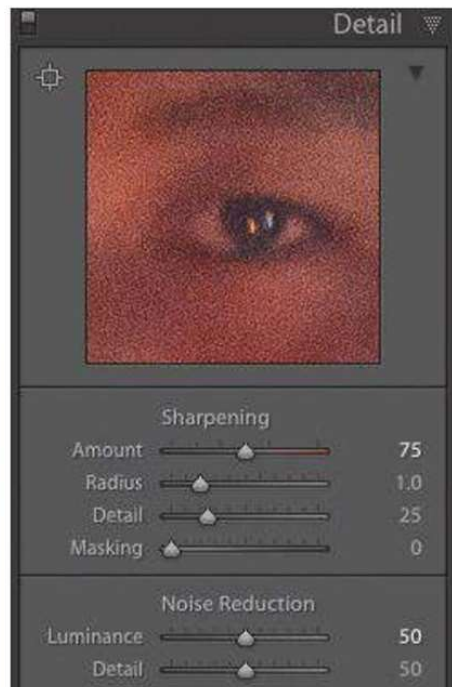


7 Avoid underexposure

Your camera only has one, native ISO. If you select a higher sensitivity then the camera will underexpose by the commensurate amount, and compensate for this in the camera software. Whenever you underexpose and lighten in processing – whether in-camera by using a higher ISO or by messing up the exposure and lightening in post-processing – then you will get noise on the image. If you underexpose at a higher ISO then the combined effect of the noise is magnified!



Avoid underexposing as noise will be more evident once corrected in post-production
Nikon D5, 24-70mm, 0.4sec at f/5.6, ISO 12,800



8 Use noise reduction

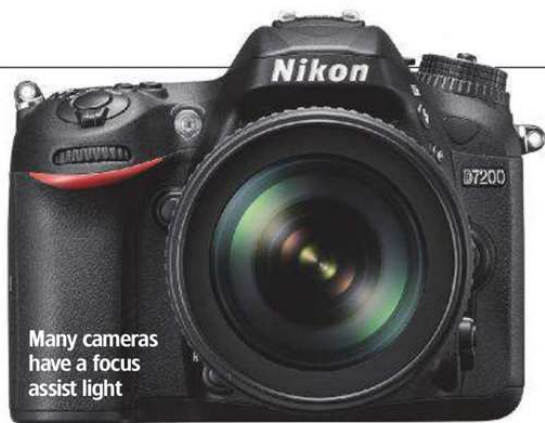
You can reduce high ISO noise with software noise reduction. There are some bespoke products such as Topaz Denoise or Nik Dfine, or you can simply use the noise reduction in Adobe Lightroom. Drag the Color slider to reduce the random colour pixels of chroma noise, and the Luminance slider to reduce the grainy, grey speckling of luminance noise. Zoom to 100% to assess the results. In both cases, the Detail slider controls how small details are preserved. If you apply much Luminance noise reduction, then you will have to increase the Sharpening slightly in order to compensate for the overall softening of the image.

9 Drawbacks of high ISO

Most people are familiar with high ISO noise: the grey, grainy speckling of luminance noise, and the random colour pixels of chroma noise; however, if you shoot at higher ISOs you will also have a lower dynamic range. This is the ability of the camera to handle contrast. A diminished dynamic range can mean that shadow details might be lost, or highlights blown in very contrasty conditions. While you shouldn't worry about increasing the ISO, you should always try to shoot with the lowest ISO possible for the best-quality results.

10 Improve your technique

Avoiding camera shake is not just about using a high ISO to increase the shutter speed: if you improve your technique then you can keep the camera still at a lower setting. Use noise reduction on the lens or camera body if you can, brace yourself against something like a wall or pillar, and squeeze the shutter release gently. Last, take a few shots in quick succession: essentially bracketing against camera shake.



Many cameras
have a focus
assist light

11 Use auto assist for focus

In low-light levels your camera can struggle to focus. Many have a focus assist light to help, to ensure your shots are sharp. This will often only work if the camera is set to a single, rather than continuous, focus mode.

12 Avoid imaginary numbers

Camera manufacturers often exaggerate the higher numbers, and if you try to achieve these numbers there is a good chance that you might crash and burn. Many cameras have an extended range on top of the numbered ISO settings. These are often unusable in anything but images that will be reproduced very small indeed. My rule of thumb is that I never use the extended range of ISOs and try not to exceed a stop lower than the highest numbered ISO.

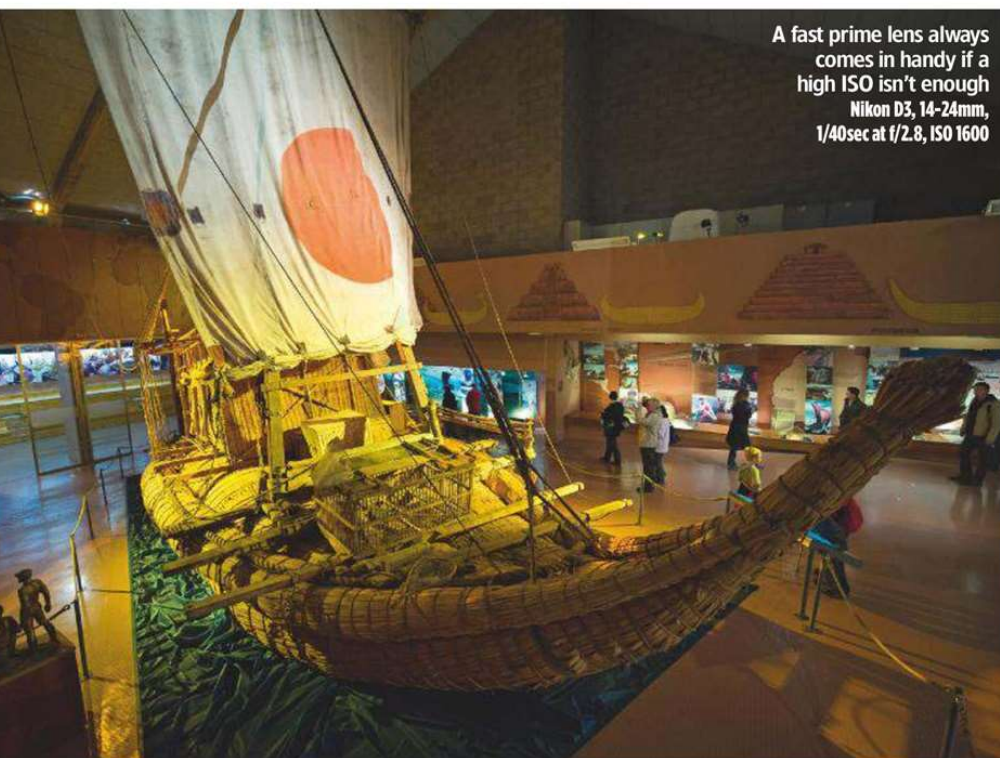
13 Bracket for noise

If you are not sure about what maximum ISO you can use, take the same shot at a couple of different ISO settings, then select the one at the lowest ISO that works – whether that means the one without camera shake or the one with the adequate depth of field. This means that you will have the best-quality shot, with the lowest amount of noise possible.



Fire off a burst
of shots to
bracket against
camera shake
Nikon D800, 24-70mm,
1/200sec at f/4, ISO 2500

A fast prime lens always
comes in handy if a
high ISO isn't enough
Nikon D3, 14-24mm,
1/40sec at f/2.8, ISO 1600



14 Pack a prime

Sometimes the light levels will be so low that even when using your highest ISO you still won't be able to select a fast enough shutter speed. In these instances, use a fast prime lens. A 50mm f/1.4 lens will allow two stops more light into the lens than even a fast professional zoom lens with an aperture of f/2.8. This could make the difference between a usable shutter speed of 1/15sec and an unusable 1/60sec.

15 Increase ISO with flash

It is often said that you should avoid higher ISOs when using flash, but an increase in the ISO will, in effect, make your flash more powerful: enabling it to light up subjects that are further away or allowing you to use a smaller aperture. If you combine the slow sync flash setting with a higher ISO, then the ambient light in the image can be balanced with the flash.

Technique



Noise is more visible in shadow areas, so use a lower ISO if shadow detail is important
Nikon D810, 24-70mm, 1/320sec at f/4, ISO 1600

16

Use a wideangle lens

A telephoto lens doesn't just magnify the image size – it magnifies camera shake. If you are shooting an interior in low light, a wideangle lens will show less camera shake at a given shutter speed. It will also display a greater depth of field at a given aperture than a telephoto lens. This enables you to take pictures without having to use such a high ISO that the image quality is degraded.

17

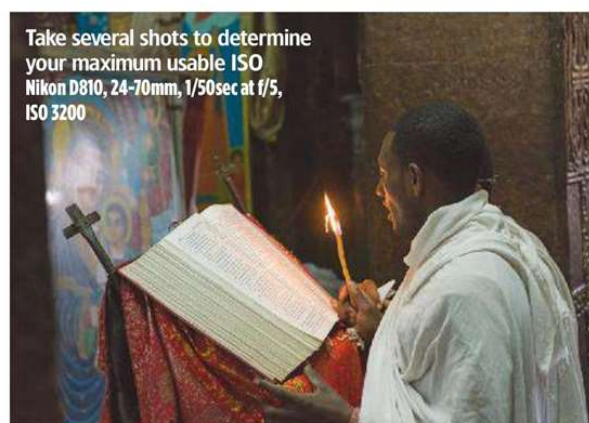
Avoid subject blur

Even if you are capable at handholding your camera at slow shutter speeds you might still get blur from a moving subject. Sometimes this can be a welcome creative effect; other times it can ruin your pictures. Even when you're shooting an indoor portrait, a move of a head can still blur the picture at very slow shutter speeds. Select a shutter speed a couple of stops faster than your slowest handholding speed to prevent this blur: increasing the ISO will allow you to do this.

18

Beware of the shadows

Your pictures will show more noise in the shadow areas than in lighter parts of the picture. If there is necessary detail in shadow areas, then you should try not to use such a high ISO as when you are shooting lighter-toned subjects.



Take several shots to determine your maximum usable ISO
Nikon D810, 24-70mm, 1/50sec at f/5, ISO 3200

19

Test your limits

The maximum usable ISO will depend on your camera, the subject matter and the tolerance to (camera) noise. The only way to

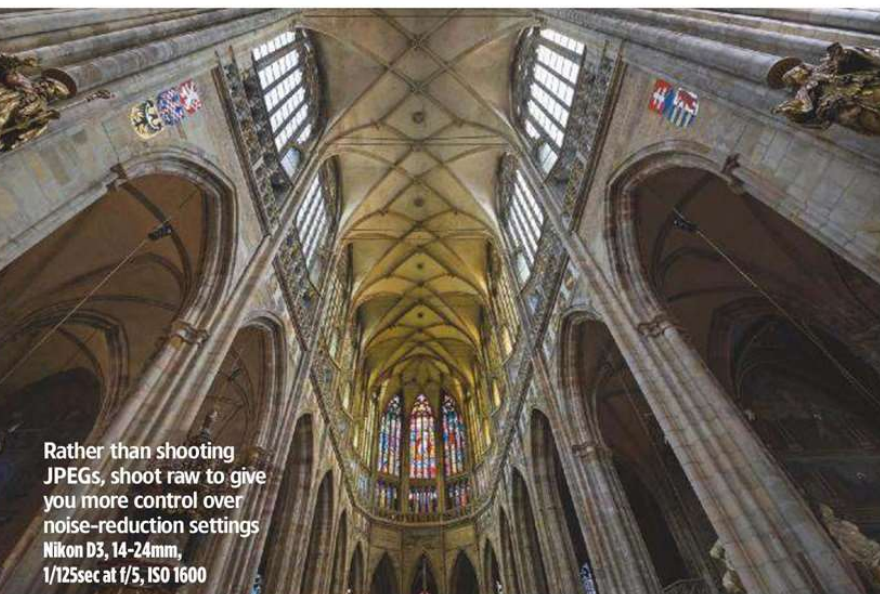
assess it is to take a range of shots of the same subject at different ISO settings and then view the results on a computer. Work out where your personal limits are: the ISOs that you can comfortably use, your highest usable setting in normal conditions, and the maximum ISO that you would use at a pinch, if you have to. When you are editing your pictures, overlay the metadata so you can see what the camera settings were. This will let you assess your highest usable ISO, and see what shutter speeds will give you camera shake and subject blur.

20

Shoot raw

If you shoot in the JPEG format, then the camera will apply preselected noise-reduction settings. If you shoot using the

raw format, these settings will be applied to the JPEG preview of the image, and you can adjust the noise-reduction settings retrospectively. This allows you to walk that fine line between not enough noise reduction, and too much, which can make the image appear soft.



Rather than shooting JPEGs, shoot raw to give you more control over noise-reduction settings
Nikon D3, 14-24mm, 1/125sec at f/5, ISO 1600



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The surreal truth

Lee Miller played a key role in the British surrealist movement, as a new book and exhibition show. Her son **Antony Penrose** reveals more to **Steve Fairclough**

Although she died in 1977, new discoveries are still being made about the life and work of the pioneering US photographer Elizabeth 'Lee' Miller. Keeping the flames of excitement burning about her work are her son, Antony Penrose, and her granddaughter, Ami Bouhassane – both of whom have worked extensively on her archive for many years – yet even they are still discovering the full extent of her work and history.

The new exhibition 'Lee Miller and Surrealism in Britain' at The Hepworth Wakefield gallery in West Yorkshire recounts her involvement in this movement, but Penrose admits he previously knew little about it. He credits the discoveries to The Hepworth's curator Eleanor Clayton. 'Eleanor went off and did a fantastic amount of research. This is really valuable for us because she has taken a fresh pair of eyes, a very diligent way of investigating, and come back with a whole new angle. She has established how well Lee Miller was placed within British surrealists, in particular from 1937 onwards. It's absolutely fascinating what she's come up with,' says Penrose.

In fact, the fresh angles on Miller's surrealist work shouldn't be too much of a surprise as she was a prolific and multi-faceted photographer, who travelled extensively and, at various times, lived in the USA, France, Egypt



Self-portrait in black-and-white patterned dress, New York Studio, New York, USA, 1932 by Lee Miller

and England. Her work spanned portraiture, fashion shoots for *Vogue*, surrealist work that began with her former partner Man Ray, and a spell covering the later days of the Second World War – indeed she was pictured in the famous 'bathtub' picture taken by David E Scherman in Hitler's apartment in Munich. But her involvement in the British surrealist movement dated back to the late 1930s.

As Penrose reveals, 'We didn't have any idea that she was so strongly part of that bit of the movement because we always thought that it was the French surrealists – Man Ray, Max Ernst and Paul Éluard – whom she was

the closest to. But she had an equal affinity with the Brits and it's very touching to see that.'

Another factor that sheds light on why Miller's links to British surrealism were little known until now is the fact that when she died much of her work was unknown. Penrose reveals, 'When Lee Miller died she had actually buried her career as a photographer and hidden it all away in the attic. Nobody knew [the work] really. She was a footnote in Man Ray's career, but nobody really knew about her own distinguished career.'

He continues, 'Then, after Lee [Miller] died, my late wife, Suzanna, went up into the attic of the old farmhouse and found all these boxes – there were something like 60,000 negatives up there. Not only that but there were more pages of manuscripts than we've had time to catalogue yet. Then there were the old contact sheets, maps, military orders and things like that. It gave us a picture of somebody that none of us knew, not even my Dad. He was astonished when we found all this stuff.'

Post-war trauma

Indeed, unsurprisingly, given what she had witnessed and photographed during the final days of the Second World War, in the post-war years Miller suffered badly from what we now know as post-traumatic stress disorder (PTSD) and often sought solace in alcohol.

Penrose says the unexpected discovery of her work was 'an amazing gift' but admits, 'I was quite bitterly estranged from her during my life. It was very difficult when one's parent is an alcoholic because it leads to all kinds of disasters, complications, tensions and so on. We made [up as] friends just before she died, but it still didn't give me an insight into her photographic career.'

He continues, 'Then, after she died, it was there – it was right under our noses. It took us from then, 1977, until 1984 to

Right: David E. Scherman, dressed for war, London, 1942





BRITISH SURREALISM

create her first book and that's when the first big exhibition came out in 1985 at The Photographers' Gallery, London, to mark the publication of my biography, *The Lives of Lee Miller*. It's just gone on ever since.'

The link to surrealism

The exhibition at The Hepworth showcases the results of Eleanor Clayton's exhaustive research, which, in the accompanying book *Lee Miller and Surrealism in Britain*, outlines just how intrinsically linked Miller was to the surrealists in Britain and the likes of sculptor Henry Moore and artist Eileen Agar. Indeed, some of their work sits alongside Miller's imagery within the show.

It was her future husband, Roland Penrose, who persuaded the nomadic American to move to Britain and become a part of the burgeoning British surrealist movement in the late 1930s. But Antony Penrose states, 'In a way she was a ready-made surrealist because it was way more than an art movement; it was a way of life. She discovered that way of life back in Poughkeepsie, New York, where she just decided that she was going to live her life to her own standards and wasn't going to accept anybody else's opinions about morals, artistic values or anything like that.'

He adds, 'As surrealists they shared their own lives, their ideals and aspirations – it was very, very important to be united in their assertion of the need for peace and freedom. That was where British surrealism was really something that was of deep importance to Lee Miller, and it's only thanks to the work of Eleanor Clayton that we've really begun to realise how closely she was integrated into this charmed moment before the war came along and changed everything.'

Important collaborations

Among Miller's important photographic collaborations were those with Man Ray, Edward Steichen and fashion photographer George Hoyningen-Huene. In fact, she is said to have accidentally discovered solarisation in negatives in Man Ray's darkroom – it's a technique that exists in some of her surreal imagery.

However, Penrose is quick to downplay the importance of solarisation. 'It's often taken to be a kind of definition of surrealism but surrealism was much more than



Above: Corsetry, solarised photographs, London, 1942

just one clever photographic darkroom trick. Surrealism isn't only about clever effects; it's about a way of seeing. But it [solarisation] did epitomise that way of thinking because when you start looking at it you've got positive and negative in the same image in this kind of dream-like quality.'

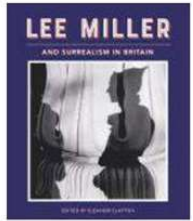
Penrose explains, 'Man Ray was the one who really encouraged her to free her imagination and go and be a part of this wonderfully crazy bunch of people, who were doing such exciting things. That was really the core of her being a surrealist, although she was still an individual and that was important to her.'

Miller's long-time camera of choice was a Rolleiflex, and she invested in

one of the first-ever 'New Standard' models in the late 1930s. Penrose recalls, 'She just had a tremendous fluency with the Rolleiflex. It was constantly by her, right up to close to the time that she died. It suited her so well because it gave beautiful negatives. People who know about printing will look at her work now and realise just how incredibly good she was. She just had that way of pulling the best out of a negative and, of course, everybody knows that if you start with a good negative you begin with an advantage.'

The exhibition

When quizzed on what visitors to the exhibition should expect to see, Penrose replies, 'I think they will



The exhibition 'Lee Miller and Surrealism in Britain' is at The Hepworth Wakefield gallery until 7 October 2018. An accompanying book, with the same title as the exhibition, is published by Lund Humphries (ISBN: 978-1-84822-272-4), with an RRP of £35. To find out more go to www.hepworthwakefield.org and www.lundhumphries.com

Lee Miller's archives are kept in her former home, Farleys House, in East Sussex. The house is open to visitors, and there is usually an exhibition in the gallery of images from the archives. To find out more, see www.leemiller.co.uk and www.farleyshouseandgallery.co.uk

see Lee Miller, for the first time ever, taking her place among the British surrealists. We've seen her among the generality of surrealism and among the Parisian surrealists, but this is a moment when we see her importance in the British scene and her connections. Her web of connections is really very important.'

He adds, 'People will see a brilliantly curated show, which is very deep in its scholarship, but at the same time, it's accessible. It's going to be something which you can go into at any level of photography, fine art or history of art and come away thinking, "that's how it all fitted together – wow!"'



Above: Portrait of Space, Nr Siwa, Egypt, 1937

Right: Lee Miller, Paul Éluard and Eileen Agar, Golfe-Juan, Côte d'Azur, France, 1937 by Roland Penrose



Inbox

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LETTER OF THE WEEK

Now for the science bit

Professor Newman's article on ultra-fast lenses (*Tech Talk*, AP 21 July) was a very interesting read, but I think while microlenses on the digital sensor may affect bokeh, there is another important factor regarding fast lenses, bokeh and micro-contrast when used on digital cameras.

The thickness of any glass filters in front of the sensor (the filter stack, consisting of the IR filter, anti-alias filter, etc.) will introduce an amount of spherical aberration at apertures over $f/2$, with a loss in micro-contrast. Counterintuitive I know, but a thick, perfectly flat piece of glass placed in a perfectly converging cone of light will introduce spherical aberration. This effect increases with aperture size. Legacy ultra-fast lenses designed for film (which never had glass in front of it), won't exhibit the same bokeh on digital, and when used wide open on a digital camera will have either good background or good foreground bokeh, but not both.

As for ultra-fast lenses, these need to be designed for a specific model camera body, as the total thickness of the filter stack in front of the sensor varies substantially by brand as well as within the brand. As designing interchangeable lenses to a specific model camera body would be virtually impossible from both a marketing point of view as well as profitability, the wide-open performance of either legacy or ultra-fast lenses will be a matter of pot luck, depending on which model body the lens is mounted on. Stopped down below $f/2$ you will probably struggle to see a difference.

Mark Groep

Digital sensors interact with lenses in a more complex way than they did with film, but camera and lens manufacturers know this and design their products accordingly. I've shot fast primes on multiple bodies from the same system and seen no evidence of significantly different behaviour between cameras – **Andy Westlake, technical editor**



Mark raises some interesting points about fast lenses and bokeh



Richard freelenses using his Olympus PEN E-PL3 and manual focus lenses

I feel free

I enjoyed your article *Cheap creative lenses* in AP 21 July. I have a number of manual focus lenses, bought second-hand, and connected to my Olympus PEN E-PL3 via adapters. For me, one of the great creative advantages of these lenses is the ability to 'freelens' – that is, to disconnect the lens and move it fractionally by hand. Unlike modern autofocus lenses, there is no need for an electrical connection to the camera for a manual focus lens to work. I have put some examples of the results in your Flickr group.

Richard Patterson

Thanks Richard, as you say, freelensing is fun and creative. We do plan to do something on freelensing in the magazine – **Nigel Atherton, editor**

Home is where the art is

I would like to comment upon the very interesting letter from Sarah Osborne about home printing costs (*Inbox*, AP 28 July). She is correct in complaining about the cost of inkjet printing inks which, by my reckoning, amounts to more per 100ml than the finest 30-year-old single malt whisky. I have the advantage of using an Epson SureColor P600 printer that does not waste any ink, unlike some of its predecessors. I can switch it on after a couple of months lying idle, and it prints straight away without any of the ink-wasting chuntering, priming and such. Nevertheless, printing at home is much more expensive than using one of the popular labs. Not least because, no matter how well one's monitor matches the printer, once a print is produced, I will always see a few tweaks to make or decide to try a different type of paper. But that is the crux of the matter – home printing allows me to have total control of

the entire photographic process, from pressing the shutter button to producing the finished print. For me, it is worth the extra cost.

The second point is that, expensive though home printing is, it is a tiny proportion of the overall cost of following our hobby. When I finally produce a print for an exhibition or competition, the ink costs will be far less than the other costs of the process. Different folk have different priorities and budgets but, for me, the greatest cost in producing an exhibition-quality print is diesel. My travel expense far exceeds my spending on ink. For me, a more economic car might be a better investment than a cheaper printer.

Eric Begbie

Thanks for this, Eric. This topic is an ongoing debate, and manufacturers defend themselves by saying you get what you pay for in terms of ink quality and longevity. At the same time, they are in the business to make a profit, and clearly the consumables will generate more revenue for them than just a single printer sale. I assume you mount your own images for exhibitions, as this can be quite a cost too if you farm it out – having to frame images for a show is even more expensive. Would other readers like to see more on image mounting in AP? – **Geoff Harris, deputy editor**

Film star

Further to Andrew Redding's letter about outdated film (*Inbox*, AP 23 June), I have the following which I will give to other readers: 4 x 36 rolls of Kodak Elitechrome, expires 09/2005; 1 x 36 roll of Kodak ColorPlus, expires 08/2010; and 1 x 36 roll Fujicolor 200, expires 04/2014.

If you have any recipients for any of this film, I will be pleased to send it on to them.

J H Evans

If any readers are interested in taking up this offer, please contact us and we can put you in touch with J H Evans. I have a friend who paints with light, and she gets some really cool images with outdated film, so

Win!

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it's far from useless – **Geoff Harris, deputy editor**

Nik knack

In *Inbox* in AP 21 July, you asked whether other readers agree that AP is too focused on Adobe CC software. The answer is yes you are for software, along with other photographic magazines. While I have seen reviews that state that other software packages match Adobe, and for example, Affinity, Nik, etc. are good or even better, I can't recall seeing a how-to article on any of these packages. Andrew Herbert suggests you should have a separate panel alongside the Adobe article, which is an excellent idea. Many of my photographer friends complain about the Adobe CC subscription model yet follow it, as magazines such as yours help to perpetuate its dominant position. Users of the alternatives turn away from good magazines such as yours and to the internet, perhaps never to return. I feel the equipment reviews don't show such bias though.

David Higton

We published a round-up on Adobe CC alternatives in AP 16 December 2017, and also ran an article on Nik Collections (Silver Efex Pro 2) back in AP 5 November 2016. We do these types of articles on a regular basis. The challenge we face is which CC alternatives do we talk about in the separate panel: Photoshop Elements? Affinity? Nik? All three? We'd run out of space if we tried to cover every base and the tutorials would take over the magazine. But don't worry, we are coming up with an alternative approach to software tutorials – **Nigel Atherton, editor**

Too much clutter

Amateur Photographer is a fine magazine – even more so as it is published weekly, and one can imagine the pressure of work to get it all done on schedule. There are very few, if any, misspellings or typos, which is very commendable given the circumstances. However, there is the matter of captions, text boxes and numerals which have irritated me for some time, and the problem seems to be getting worse. In AP 21 July, we can almost see the photographs in the article *For the Love of Dogs*. Every image is partly obscured by text. The image at the bottom of page 21 has a complete essay to peer through – the composition of the photo is lost.

In AP 28 July, we have the results of Round Three of APOY – 30 photographs all spoilt by numerals stuck on top of the images. I cannot understand why this is done, given that we're all in the business of trying to get composition right. Interestingly, the caption for No 4 on page 20 mentions the composition arrangement in detail, but with complete disregard for the numeral slapped on it.

It seems to me that a major point in looking at photography has been overlooked, and the clutter of text is defeating the whole purpose of presenting the images. I wonder if Roger would welcome such graphics over his image for *Final Analysis*.

Martin Hursthouse

Captioning is important to AP's approach, but do other readers find this annoying? Anyway many thanks for the feedback, Martin, which we have passed on to our art team – **Nigel Atherton, editor**

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David feels we need to carry more articles on Lightroom alternatives

Gathering of rooks

By David Tipling

David Tipling recalls the time, effort and patience spent in getting this memorable avian image

On Christmas Eve 2004, I visited a small piece of wet woodland just east of Norwich. The nearly four acres of Ferry Wood was for sale and, having taken receipt of a large advance for a book, I was looking to spend that money on a piece of land where I could photograph undisturbed. As I sloshed through the wood, I kept getting distracted by small flocks of rooks overhead, flying along the river. My curiosity piqued, I headed east, following the birds' lead to the fields rising above Buckenham Marshes in the Yare Valley, and then to one particular field that was covered in a black carpet of crows.

This spectacle was one I became very familiar with. I would photograph in Ferry Wood during the day and, as dusk approached, would then drive the three miles east to this gathering. That first winter I learnt the birds' habits; where

they congregated in large, pre-roost throngs; and then marvelled at the moment 40,000 of them suddenly decided it was time to descend into the wood to roost for the night. After massing in perhaps three or four large noisy flocks prior to dark, the sun set and a winter gloam enveloped the landscape. En masse, they fell completely silent before bursting into a cacophony of sound rising into the air – great clouds of birds hardly visible in the gloom swirled above the tree tops before dropping down into the wood.

I am drawn to photographing roosts, perhaps because when large numbers gather they offer such a rich source of photographic potential. The pictures can often be striking but perhaps more than that, it is being there witnessing such spectacles and the photographic challenges that arise from capturing a fast-moving subject when light is seeping from the landscape.



David Tipling

David Tipling is a widely published wildlife photographer with a passion for birds. He is the author or commissioned photographer for more than 40 books, including the recently released *A Bird Photographer's Diary*. David runs Norfolk Photo Safaris and leads tours. For more information, visit www.norfolkphotosafaris.com.



© DAVID TIPLING

Although I could see the potential for creating images at this roost, it took many visits to formulate the best plan. It was not until I had seen large numbers gathering on wires one evening that I decided that would be where I would concentrate my effort. The wires led across a huge 300-acre field, and I soon realised this was not a reliable staging post, as on some evenings the birds were

disturbed by a dog walker or a train from the nearby railway line, and they moved to an adjoining field. But I persevered and decided on one position where I could include the large ivy-clad trees at the back of the field in the frame to give some context of winter and landscape. Then, it was simply a matter of trying.

Over the next few years I shot hundreds of images, experimented with shutter



Pre-roost gathering of
rooks (*Corvus frugilegus*),
Buckenham, Norfolk,
16 January 2013
Nikon D4, 400mm f/2.8 lens,
1/4sec at f/2.8, ISO 2000

‘From the silence, a wave of birds rose flying into the frame, while the birds on the wires sat tight. It was an extraordinary sight’

speeds, focal lengths and enjoyed some successes and plenty of blank evenings, too. But then on 16 January 2013, everything came together. From the silence, a wave of birds rose flying into the frame, while the birds on the wires sat tight. It was an

extraordinary sight. With a shutter speed of a quarter of a second, I only captured a few frames and this picture is the only critically sharp one, but I had captured the image I had been striving for.

Soon after this picture was taken, I sold my wood to buy

a piece of land close to home in north Norfolk, but I still make the pilgrimage a couple of times each winter to witness what is one of Britain's greatest wildlife spectacles.

Challenging conditions

The final act before roosting, as the rooks swirl in the air, happens in such poor light that it was only in the mid-2000s, with advancing camera sensor technology, that it became

possible to capture this in a photograph. The Nikon D3 was the first camera to have a good enough light-sensitive sensor to almost see in the dark. A fast long lens was a necessity for this shot, too, all mounted on a sturdy metal Gitzo tripod and Dietmar Nill gimbal tripod head. I used a Pocket Wizard flash trigger to fire the camera so as not to touch the camera and lens, thereby avoiding camera shake.





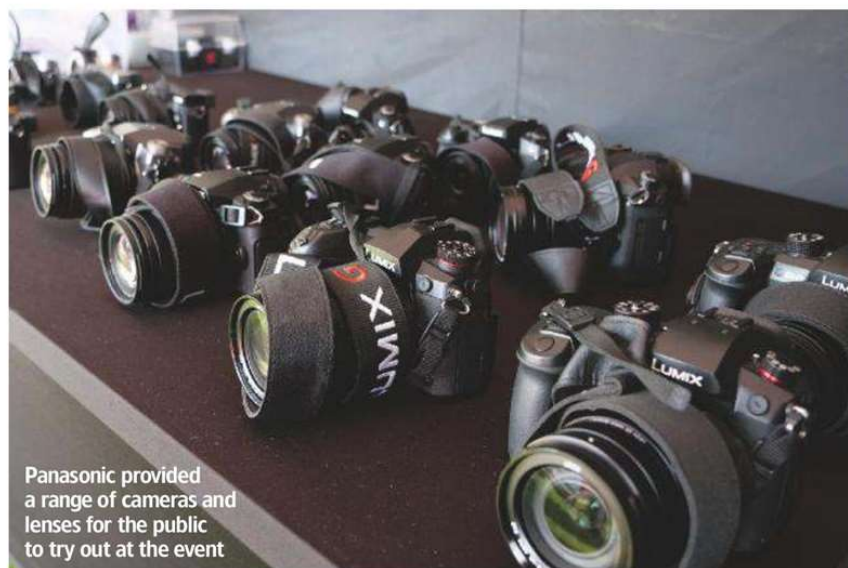
LUMIX ambassador Esther Ling giving guidance to members of the public at Bodiam

BEHIND THE SCENES Bodiam Castle

Michael Topham visited the Panasonic LUMIX Roadshow at the National Trust's Bodiam Castle to get a taste of what people love about LUMIX cameras

This year's Panasonic LUMIX Roadshow is once again turning out to be a huge success. Shortly after the LUMIX team had set up the stand to show off the company's latest cameras and lenses early on a Saturday morning, members of the public began piling into the tent to take up the offer of free camera advice and the opportunity to try out a recommended camera to match their interest, budget and ability. Those trying the kit varied

from parents with young children to savvy photography enthusiasts thinking of making the switch from DSLR to mirrorless. AP was in attendance, joining in with the free-to-attend photo walks held by professional photographer and LUMIX ambassador Esther Ling, and chatting to the users as they scoured the grounds to get a feel of what they enjoyed about the experience. Here, we've assembled a selection of shots taken by those who visited, with a few words about the camera they used.



Panasonic provided a range of cameras and lenses for the public to try out at the event

READERS' LUMIX IMAGES

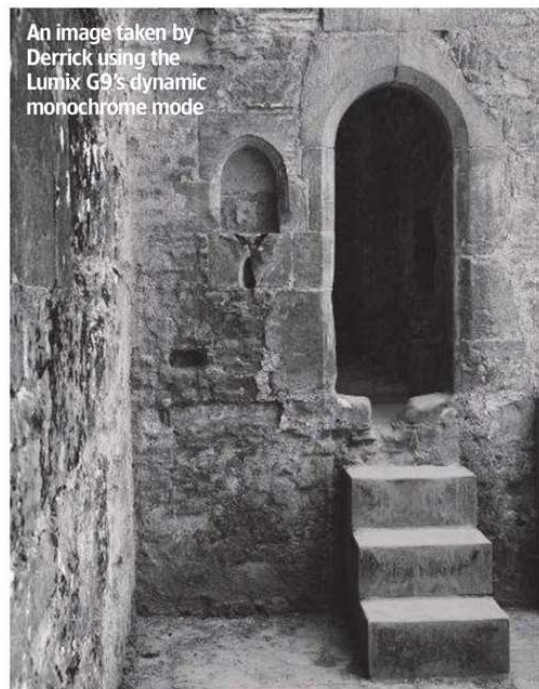


© DEBORAH WARBURTON

Deborah Warburton

Camera used:
Panasonic LUMIX FZ2000

I'm not overly fussed about swapping lenses and like the idea of one camera that does everything. I have quite big hands so I wanted a decent-sized grip, and after getting some good advice I tried the LUMIX FZ2000. I love being able to capture shots at 30fps before extracting the most photogenic frame from a 4K burst to save as a photo. The saved 8MP images will be large enough to print up to A3 size too, so I'll be able to frame some of my shots for friends and family.



© DERRICK CROSS

An image taken by Derrick using the Lumix G9's dynamic monochrome mode

Derrick Cross

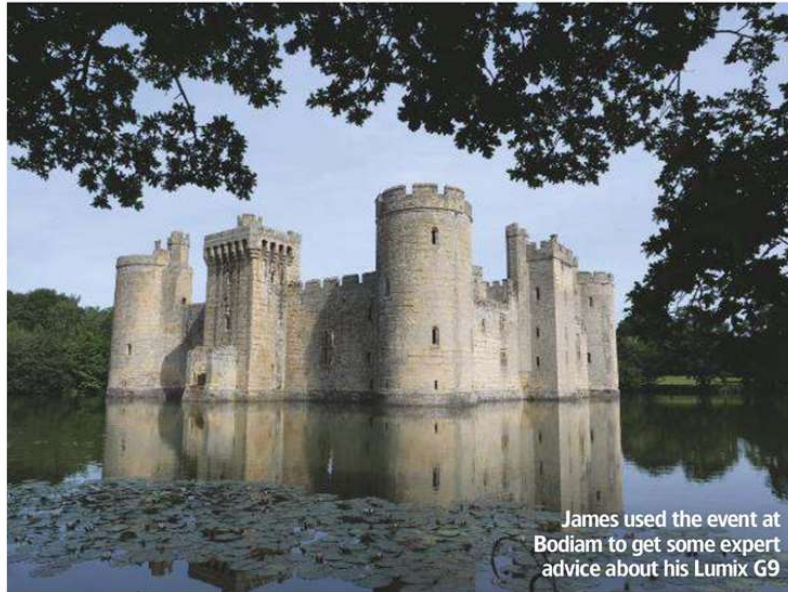
Camera used: LUMIX G9 with Leica 12-60mm lens

I had read a lot of positive reviews about the LUMIX G9 and thought it would be foolish of me not to take up the opportunity to see what it's like to use in a real-world shooting environment. The button layout and handling impressed me, and as a DSLR user I love the fact it has a top-plate display. I'm not usually one for using creative-effect filters, but thought I'd give them a try. I was pleased with the result of the dynamic monochrome mode, which enhances contrast to give mono shots more punch and impact.

James King

Camera used:
Panasonic LUMIX
G9 with Leica 12-
60mm lens

➤ I recently bought a LUMIX G9 and as I was on holiday in the area, I visited the roadshow to ask the LUMIX team a few questions. They answered in great detail and I then joined Esther on her photo walk where I learned a lot about Post Focus and how the G9's various autofocus modes work. Later, I handled the Panasonic 42.5mm f/1.2 ASPH Leica DG Nocticon OIS, which I'm tempted to add to my lens collection very soon.



James used the event at Bodiam to get some expert advice about his Lumix G9

Esther Ling's top tips

Esther Ling is a professional photographer and LUMIX Ambassador whose main passions are

social, documentary, food and travel photography. Her camera of choice is the Panasonic LUMIX G9. Here, she shares her tips for those who are new to the range. **www.estherling.co.uk.**

1 If you're learning, don't try to run before you can walk. Cut your learning down to manageable, bite-size chunks. Digital is a fantastic learning tool, as you have a visual reference and all the shooting information is recorded for you to look back on.

2 If you're having issues with camera shake, you're more than likely not stable enough on your feet or giving the camera the right support. You need to keep your feet at hip distance, one behind the other, and your elbows in as close to your body as possible, supporting the camera underneath.

3 Really train yourself to 'see' before you press the shutter. Many people machine gun the shutter and think 'there must be one good one in there.' Notice the detail then you won't have to edit out that lamp post coming out of someone's head later!

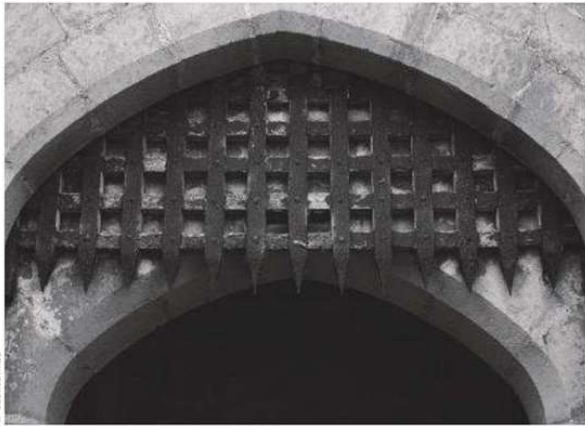
DATES FOR YOUR DIARY

The Panasonic LUMIX Roadshow, in partnership with the National Trust, will continue to tour various scenic locations this year (see below), and AP will be featuring articles with tips and techniques for capturing them at their best. See www.nationaltrust.org.uk/panasonic-roadshows. Mount Stewart, Northern Ireland, 18/19 August; Giant's Causeway, Northern Ireland, 1/2 September; Dunham Massey, Cheshire, 8/9 September.

George Hall

Camera used: Panasonic LUMIX
GH5 with Leica 12-60mm lens

➤ I already own a mirrorless camera, albeit a fairly cheap one. I wanted to see what, if anything, I'd get from a more sophisticated model. It took a bit of time to get used to the GH5 as it's larger than what I'm used to, but what I fell in love with was its superb 3.2in vari-angle touchscreen. I'm not particularly tall, so being able to tilt it and hold it above my head while still clearly seeing what I was shooting was a great benefit. I downloaded the LUMIX image app too and liked the way I could send shots across to my smartphone in seconds.

**Paula Roberts**

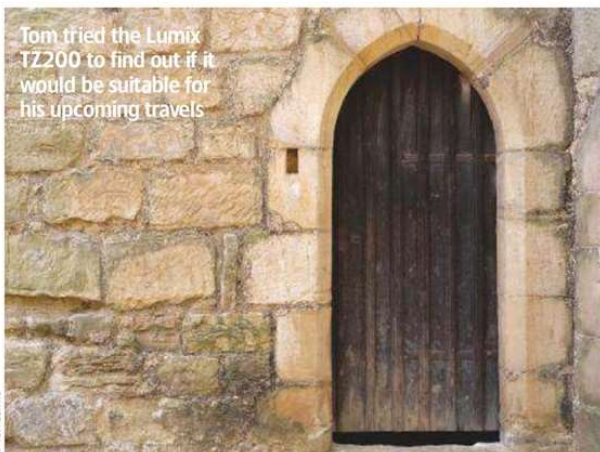
Camera used:
Panasonic LUMIX FZ330

➤ The team recommended the LUMIX FZ330 to me, which falls within what I'm prepared to spend on a new camera to photograph my children growing up. I kept things simple by shooting in iA mode, but liked the 24x optical zoom, manual control and fast 12fps continuous shooting options that it offers. It's a camera I can see myself learning with, to become more than just a snapshot photographer.

**Tom Curtis**

Camera used:
Panasonic LUMIX TZ200

➤ I gave the TZ200 a go, thinking that it might be a good option for an upcoming holiday to America where I don't really want to lug my heavy DSLR around. I've been tempted by the TZ100, but having now tried it side-by-side, the TZ200 with its extra zoom reach and higher resolution electronic viewfinder gets my vote. I'm thrilled to have been given the chance to try it for free before buying it. I'm convinced that it's the right pocket compact for our trip – all I need to do now is persuade my wife and hope she agrees to the idea.



Tom tried the Lumix TZ200 to find out if it would be suitable for his upcoming travels

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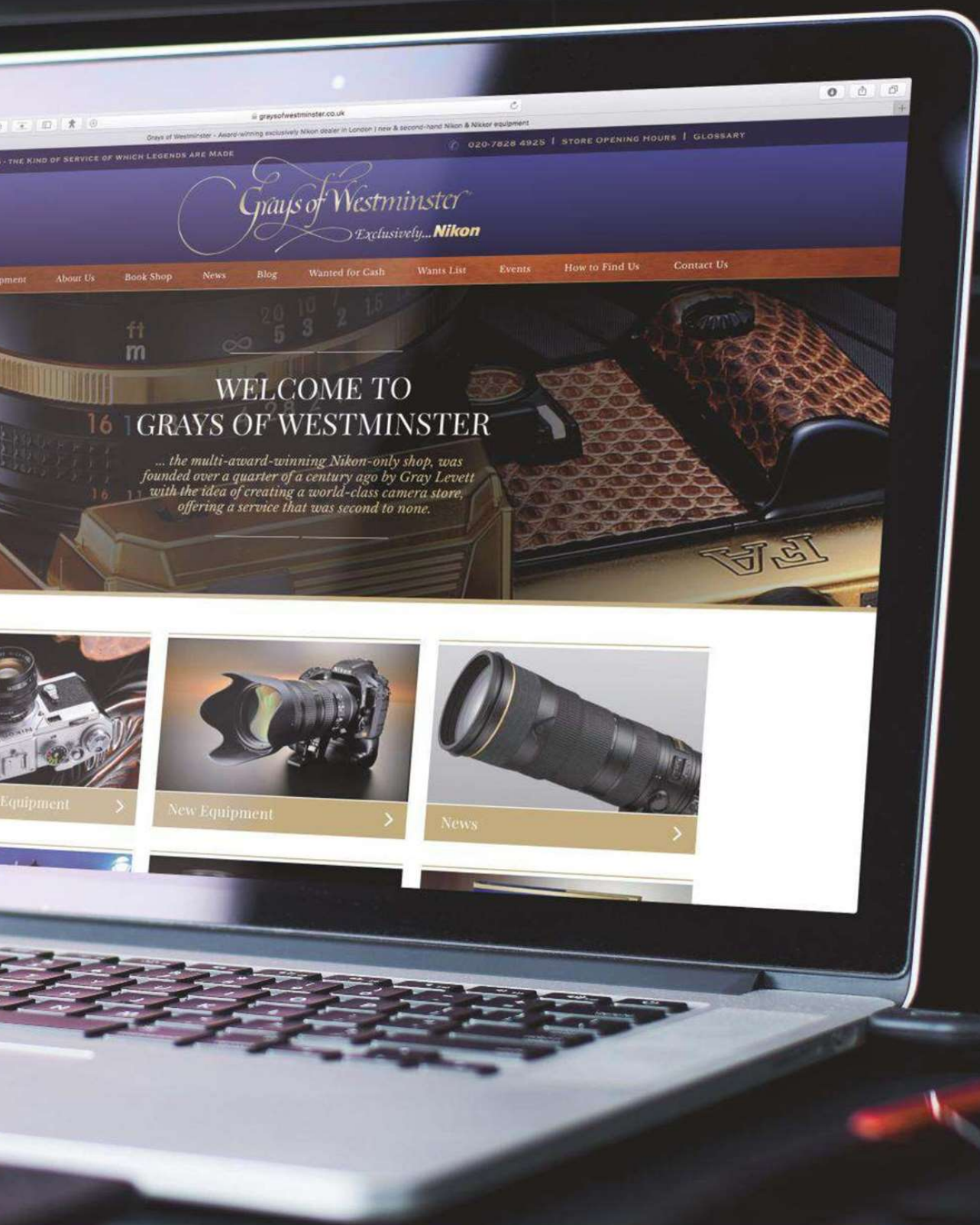
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James Paterson

James is as skilled a photo editor as he is a photographer. His work has appeared in countless magazines and books, and in 2014, he was appointed editor of *Practical Photoshop* magazine. His subjects range from portraits to landscapes, architecture and underwater scenes. For James, Photoshop is more than just a work tool. Visit www.patersonphotos.com

Lightroom tips

White balance and colour correction

Take control of colour and banish troublesome casts for good with these essential Lightroom tips from pro **James Paterson**

2 Choose a WB preset

The White Balance drop-down menu in Lightroom's Basic Panel lets you select a preset from a list similar to what you'll find in your camera's White Balance settings. There are useful settings like Daylight, Tungsten and Flash to choose from (although only for raw files). Click through the list to find a preset that suits your scene.



4 Finding a grey point

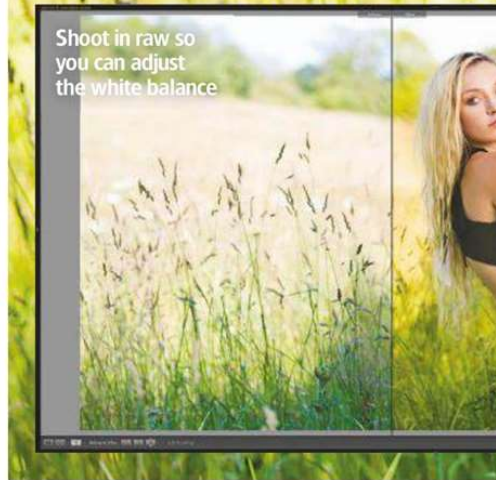
The easiest way to correct white balance is to click with the White Balance Eyedropper. But what point in an image is neutral? This involves a bit of



1 In-camera or in Lightroom?

Some photographers prefer to set their white balance in-camera before taking the shot, so that the colours look natural upon capture. Others may prefer to use Auto white balance, and adjust the temperature afterwards using Lightroom. As long as you shoot in raw there's little difference between the two, other than timing.

Shoot in raw so you can adjust the white balance



3 White Balance Eyedropper

Found in the Develop Module's Basic Panel next to the Temp and Tint sliders, the White Balance Eyedropper (shortcut W) is often the best tool for correcting colour casts in your photos. It allows you to set a neutral point in the image, and then all other colours are remapped around this point. So we simply click over a point that should be lacking in colour.

guesswork. If your scene includes grey rocks or white walls, then these work well. With portraits try sampling part of the clothing. Better yet, shoot a grey card and sample that instead.

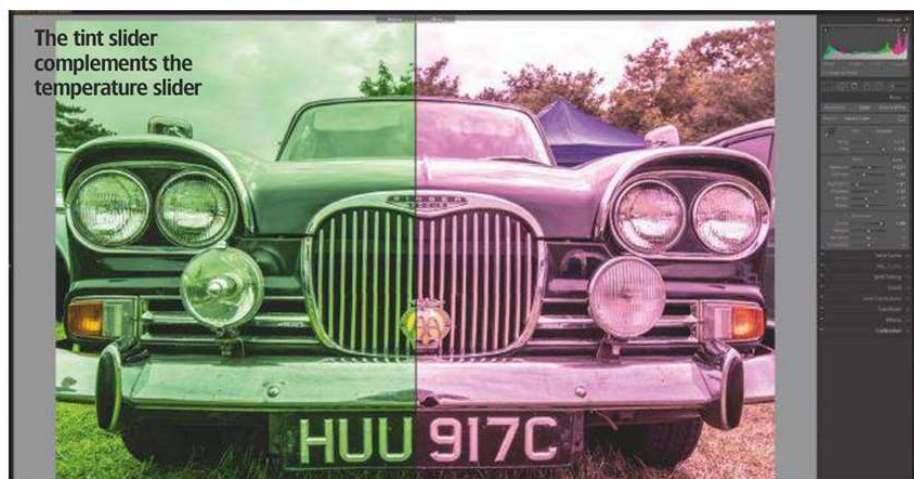


5 Lose the loupe

Hover over the image with the White Balance Eyedropper (W) and you'll see a loupe view with a grid of colours that can help with precision when picking a pixel; however, it can also get in the way. To turn it off uncheck 'Show Loupe' at the bottom left. You'll also find 'Auto Dismiss' here. When disabled, you can keep sampling points without having to grab the eyedropper after each click.

6 Shoot in raw

If you shoot in your camera's JPEG format then the chosen white balance setting will be 'baked in' to the file. By contrast, shoot in raw and you have the option to change the white balance after the fact, with exactly the same results as if you'd done so in-camera before taking the shot.



7 Temperature slider

Ranging from 2000 to 50,000, this slider relates to the Kelvin scale – a measurement of colour temperature. The lower end will cool images and the higher makes them warm – unlike the Kelvin scale, which is the opposite. This is because the slider isn't setting the white balance of the scene; instead it applies a corrective shift one way or another.



8 Tint slider

So how does the Tint slider fit into white balance adjustments? It is primarily meant for correcting subtle shifts once temperature has been set. It's especially useful for fixing artificial lighting like fluorescent bulbs or neon lights, which have a tendency for magenta/green casts.

Temporarily oversaturating an image can help you detect a colour cast



9 Temporarily boost saturation

If you're struggling to correct white balance in Lightroom or if you can't find a neutral point to sample with the eyedropper, try temporarily setting both Vibrance and Saturation to +100. The resulting overly pumped colours will make it easier to spot and correct a colour cast. Once you've adjusted the Temp and Tint sliders, simply reset the Saturation and Vibrance sliders.

10 Selective white balance

In scenes with mixed lighting conditions such as this one – where the subject is lit with a cool LED spotlight, while the background street lamps are much warmer – the colour temperatures of each light source will be different, so you might want to correct each independently. With the Adjustment Brush you can paint selective white balance adjustments.



Enhance warm tones in sunset scenes



11 Sunset shifts

There are times when we might not want colours that are accurate, instead it might be more effective to create a look or feel that better

resembles how the scene felt at the time of shooting. This is especially true at sunrise or sunset, when a warm temperature shift or slight magenta tint can enhance the mood.

12 Sample from a grey card

One of the best ways to achieve accurate colours is to shoot a dedicated grey card under the same lighting conditions as the rest of your set of photos. Once the photos are imported into Lightroom, simply use the White Balance Eyedropper to sample the grey card, then select all the photos (shift+click between first and last) and hit the sync button to colour-correct the set.



13 Pick the right profile

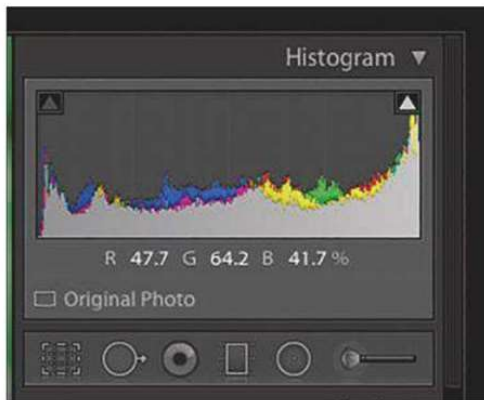
The new Profile Browser in Lightroom's Basic Panel is a useful place to start the editing process. In particular the Adobe Raw Profiles offer an array of useful starting points for different kinds of images. Each one tweaks colours to suit the subject. For example, the Landscape profile enhances blues for better skies and pulls a little detail out of the shadows, while the Portrait Profile renders skin tones better.

14 Quick reset

Experienced Lightroom users will no doubt know that double-clicking any slider will reset it to its default value. But here's another trick: double-click 'WB' to reset the white balance to 'As Shot'. Similarly, you can double-click 'Tone' or 'Presence' to reset each section of sliders to their defaults. Sometimes this will give you a better starting point for making any required white balance adjustments.

15 Equivalent WB settings

White balance corrections in Lightroom work slightly differently depending on whether your image is a JPEG or raw file. While raws can be tweaked using the Kelvin scale of colour temperature, JPEGs instead have a simpler +/-100 setting that lets you either warm or cool the tones. If you apply a preset that includes raw white balance data, then Lightroom will choose an equivalent JPEG white balance setting. For greater control over the white balance, always shoot in raw.

**16 RGB values**

The R, G and B values displayed underneath the histogram (and also in the White Balance Eyedropper loupe) show the colour values of the point underneath your cursor. Neutral points will have identical values for each of the three numbers. So if there's a colour cast at any point, the figures will be non-identical.

17 Fine-tune mono conversions

Because black & white conversions in Lightroom take colours into account by assigning luminance values to different colour ranges, the Temperature and Tint sliders can have an interesting effect on your black & white images. Experiment with them after converting an image to mono for subtle changes to brightness and contrast.

**18 Camera Calibration**

The Camera Calibration panel offers an array of colour sliders that let you fine-tune the way Lightroom renders RGB colours from your camera's raw data. These sliders aren't necessarily meant to tweak individual images or fix white balance (although you can of course use them to do so), but rather work as a baseline starting point for all images from a specific camera.

**19 Shoot a calibrated card**

At times when accuracy and consistency are vital, a systematic approach to white balance at the time of shooting is key. There are two options that many pros swear by. Either shoot a calibrated card like the X-rite colour checker passport, or create a custom white balance in-camera using a lens-mounted Expo disc filter.

20 Get creative

We photographers can sometimes get hung up on colour accuracy, but the most important thing will always be the look and feel of the image. Sometimes a creative white balance shift will produce a better image, or change the mood to suit your vision.

One of six black Owl 35 prototypes (left),
and an even rarer silver-top version (below)



Britain's first (and last) 35mm SLR

The Wrayflex was Britain's only serious attempt at producing a 35mm SLR. **John Wade** examines the camera's evolution, success and ultimate failure - a tale of good intentions and bad luck

Prior to the Second World War no English manufacturer had ever made a 35mm camera. The end of the war in 1945 was the perfect time for some enterprising company to be the first, especially in light of the fact that post-war Department of Trade restrictions prevented foreign cameras from being imported into the country. The company that rose to the challenge was Wray (Optical Works) Ltd in Kent.

Wray had dabbled in camera manufacture in the 1930s, with the Farvu, a kind of telephoto box camera that never really came to anything. But it understood the mechanics of camera production. It already had a strong reputation for optical engineering, and the import restrictions meant that the company faced little competition from foreign cameras.

The camera that Wray designers and engineers came up with was small but heavy, measuring 12x7x6.5cm and weighing 600g.

It had a rigid, black metal body consisting of the film chamber with another, smaller square section grafted onto the front, with the shutter release and shutter cocking lever on top, and a 2in f/4.5 Wray Supar lens on the front. The top plate held a direct vision viewfinder, film wind knob, rewind knob and film counter. They called it the Owl 35.

Six prototypes were made to test trade reaction, which wasn't good. What might have been Britain's first 35mm camera was considered crude compared with what had been seen from pre-war Germany, and the Owl 35 never went into production.

All that remains of the Owl 35 today are those six black prototypes, plus evidence of at least two more being made with silver top plates and at least one with a strange push-pull back-mounted lever to advance the film. The Owl might also have been used as the starting point for a technical camera made later by a



Above: Wrayflex inventor
Commander Maurice Studdert

Right: How the Uniflex (the camera's original name) might have looked and worked, from a technical drawing by the Göbel brothers

Wrayflex cameras in production at the Wray works in Kent



British scientific instrument maker called Nagard. Meanwhile, back at Wray, plans were in hand to build the first British 35mm SLR and it was going to be a world-beater.

Enter Commander Studdert

During the war, Commander Maurice Studdert worked at the Admiralty as a gunnery/

engineering officer, where he invented secret apparatus concerned with fire control and gunnery equipment stabilisation. When the war ended he joined an Anglo-American team that travelled around Germany collecting technical information from its scientists. That was where he met brothers Harry and Werner Göbel.

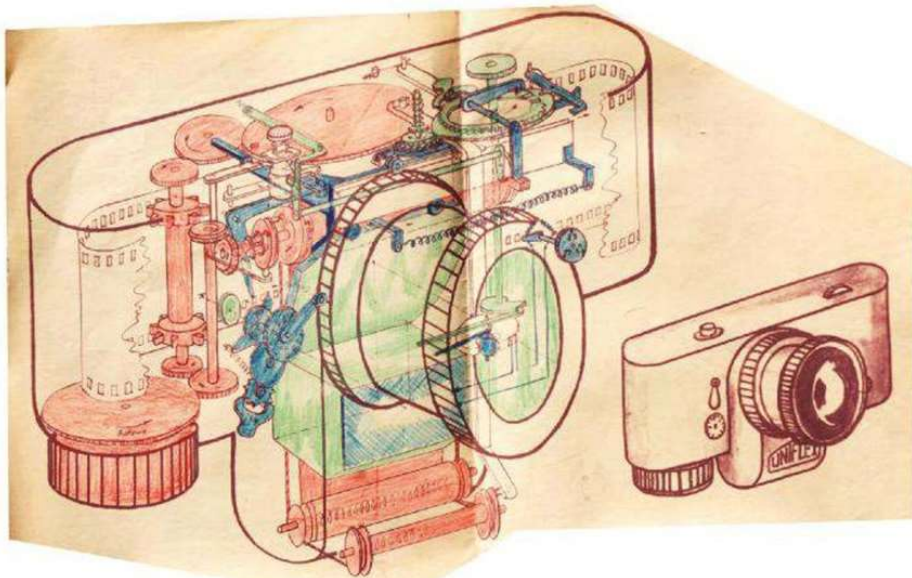
It is sometimes suggested that the Göbel

brothers designed the Wrayflex and that Studdert brought their plans back to England. Recent research, however, proves that the camera was Studdert's own invention, but that he asked the Göbel brothers to draw up the technical plans for it. He might have considered presenting the plans to a German manufacturer such as Zeiss, but in the end decided on a smaller manufacturer, one where he could play an important role in the production process.

So it was that Commander Studdert arrived at the Wray factory in Kent with the incomplete designs for his SLR. He was accompanied by the Göbel brothers whom, he said, could help Wray complete the designs and build the camera. The subsequent patent, with Studdert named as the inventor, was dated 21 May 1947. At this stage, the camera was to be called the Uniflex, and it had four revolutionary features never before been seen in a 35mm SLR:

(1) An eye-level pentaprism viewfinder at a time when other SLRs had waist-level finders. Unusually, this pentaprism was mounted on the base rather than on top of the body.

(2) Through-the-lens metering, in which the photo-electric layer of the exposure meter was coated onto one surface of



Testbench THE WRAYFLEX

the pentaprism and connected via an adjustable rheostat to a needle in the camera's top plate.

(3) A clockwork motor to advance the film automatically after each exposure.

(4) An instant return mirror.

Sadly it was decided that the complicated design was beyond the capabilities of Wray's engineers, and the camera never got past the prototype stage. As Studdert's health began to decline, the Göbel brothers took on the task of simplifying the design to make it a viable and commercial proposition. When it was discovered that there was another camera called the Uniflex, the name was changed to Wrayflex.

Pre-production cameras

Before production began, three prototypes were built for show at the British Industries Fair in 1950 as well as a similar exhibition in Toronto. It is pretty much certain that the three cameras held the serial numbers 1501, 1502 and 1503.

A letter dated 23 June 1950, from Wray Managing Director Arthur Smith to the wife of Commander Studdert, who by then was ill in hospital, stated: 'We had a satisfactory trip to Canada, and I can assure you that the camera was well received there as it has been in this country. While I have been away I think that the Göbels have conquered most of the troubles on the shutter, and although this has given more alteration than we hoped for, it

does mean that we can start to go ahead with production very shortly.'

Number 1503 was discovered in the hands of an ex-Wray director around 10 years ago, and still works today. Earlier this year a Wrayflex with no shutter and no serial number anywhere on the body but otherwise closely resembling the 1503 prototype came to light for the first time. It is thought that this might have been 1501 and, therefore, the very first Wrayflex.

Wrayflex I

The commercial debut for the Wrayflex was the Festival of Britain Exhibition in May 1951. It was somewhat different from the model suggested in the 1947 patent.

The viewfinder was now in its more conventional position on top of the body and was served, not by a pentaprism, but by three mirrors. Light from the lens was bounced from the reflex mirror, up to a second mirror at the back of the viewfinder housing, forward to a third mirror at the front of the housing and back out through the viewfinder's eyepiece. This system provided a correct way up image, but one that was laterally reversed when the camera was held conventionally, and which turned upside down when the camera was turned vertically. A small circular section in the centre of the focusing screen was equipped with a magnifier for critical focusing.

The camera was sold with a Wray 50mm f/2 Unilite lens. Shutter speeds ran 1/2-



Left: One of three pre-production Wrayflex prototypes identified on the base by the 1503 serial number. Notice the tiny flash sockets, not seen on the production cameras

Right: This camera, with no serial number, might be the very first Wrayflex



1/1,000sec, with the 'B' setting unusually placed between 1/250sec and 1/500sec settings. Flash synchronisation was added to early models by means of three sockets: the top and middle for electronic flash, the middle and lower for bulbs. Later, the three sockets were changed for two coaxial types, one for each type of flash.

Film wind was unusual in using a key on the base plate, and the rewind control was also a key, rather than the traditional knob. The camera had a slightly unusual film format of 24x32mm rather than the conventional 24x36mm. The smaller size had the advantage of offering up to 44 frames on a standard 36-exposure length of 35mm film, something that the company hoped would appeal to photographers at a time when film wasn't easy to come by. Around 800 cameras were eventually made.

Wrayflex Ia

As the Wrayflex went into full production, it was initially well received in England and abroad, and even taken up in small numbers by the military. At the start, orders came in faster than Wray could make them – the reason for the slow production speed was a lack of finance that prevented the camera from being tooled well enough for it to become a simple assembly



The stand for the Wrayflex II launch at the Olympia Photo Fair in 1959

Lenses and accessories

Wray made five screw-fit lenses for the cameras: 35mm f/3.5 Lustrar, 50mm f/2 Unilite, 50mm f/2.8 Unilux, 90mm f/4 Lustrar and 135mm f/4 Lustrar. It also adapted the Wray Prismscope – originally designed as a target spotting telescope – to fit Wrayflex cameras, with a focal length of 45 inches and a maximum aperture of f/18. A 50mm f/3.5 standard and 8in telephoto were planned and even advertised, but they never went into commercial production.

Although independent manufacturers didn't make lenses for the Wrayflex, several non-Wray lenses specially adapted for the Wrayflex mount have been discovered. They include a 6in f/5.5 Teleros, 135mm f/4.5 Fujita, 40mm f/3.5 Macro Kilar and an enormous and very heavy 8in f/2.9 unmarked lens that is suspected to be a Dallmeyer Dalrac.

The only Wray accessories that were purpose-made for the Wrayflex were a set of three extension rings, an adapter to fit a standard cable release to Wray's unique screw-fit shutter release collar and a cradle that enabled the base-mounted film wind key to be used with the camera on a tripod.

Below: Wray lenses for the Wrayflex. Prismscope at the rear with (left to right) 90mm Lustrar portrait, 50mm Unilite standard, 35mm Lustrar wideangle, 50mm Unilux standard and 135mm Lustrar telephoto lenses

job. Instead, it was built like a scientific instrument, by skilled instrument makers.

However, the 24x32mm negative format proved to be less popular than Wray had envisaged, mainly because colour transparencies were becoming popular, and slides from the Wrayflex I didn't fit into standard slide mounts without the addition of masks. So it was decided to change the film format to the much more conventional 24x36mm.



Wrayflex I with f/2 Unilite lens (left) and I with f/2.8 Unilux lens

Testbench THE WRAYFLEX

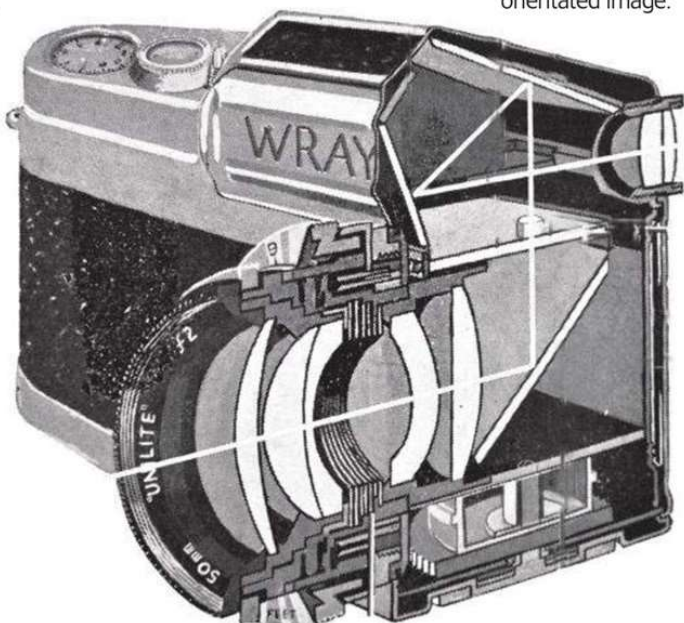
The Wray factory in Kent at the time the Wrayflex was being produced



Wrayflex shutter testing in the Wray factory

➤ Into the story now comes a young designer called Ron Bettell. By the time he joined Wray, the original camera was in production and the Göbel brothers had left Wray. It fell to Bettell to redesign the engineering for the camera so that it produced the traditional 24x36mm format. Outwardly it looked similar to the first model, with the only real cosmetic difference being in the frame counter, which counted 1–36 instead of 1–44. Launched in 1953 with a new 50mm f/2.8 Unilux lens, this became known as the Wrayflex Ia. Around 1,600 cameras were made.

Cross section of the Wrayflex I and Ia viewfinder system, showing the light path through the mirrors



Wrayflex II

The inherent fault in both the Wrayflex cameras was the mirror system in the viewfinder with its resultant laterally reversed/upside-down image. By now both the German Contax S and Italian Rectaflex had been launched, both with pentaprism eye-level viewfinders to give right-way-round images. It was time for Wray to adapt the Wrayflex to use a pentaprism. But it didn't.

Instead, another prototype was made – this time with a fourth mirror. The idea was that light reflected by the mirror at the back of the body would now undergo a double reflection in the two new mirrors housed in a triangular-shaped hump on the front of the viewfinder housing. The result was a correctly orientated image.

A prototype using this system was first discovered about 15 years ago and thought to be the only one in existence, until a second one was found about five years ago. Since the serial numbers of the two cameras are 3469 and 3471, it is likely that 3470 was also a similar prototype. One reason why Wray initially shied away from adding a

Wrayflex II with 135mm lens and cable-release adapter, fitted to a Wray tripod cradle





pentaprism to the camera lay in the way the reflex mirror worked in the first Wrayflex cameras. It didn't flip up and lay flat against the focusing screen, as is the case with most SLRs. Instead, the mirror and the focusing screen together, as a single unit, swivelled upwards and backwards and ended up in the hollow recess between the viewfinder mirrors. Substitute a solid pentaprism for the mirrors, and there was nowhere for that assembly to move into.

Designer Ron Bettell was once more called into service and, along with some cosmetic changes, he solved the problem by perching the pentaprism on top of the space into which the mirror box needed to move. That's why, when the Wrayflex II eventually appeared in 1959, it had an ugly, top-heavy pentaprism housing, with a higher-than-usual viewfinder eyepiece, as opposed to the rather sleek design of the I and Ia cameras.

The new camera was the best of the three, but it was too little too late. Coincident with its launch, the Department of Trade restrictions were lifted and into the country flooded cameras from Germany and Japan. They included the now legendary Nikon F, against which the poor old Wrayflex never stood a chance. The Wrayflex II should have been our flagship SLR, but in the end, less than 350 were made.

Thanks to Helen Pearson, the daughter of Commander Studdert, for allowing me access to, and permission to publish items from, her father's archives. Posthumous thanks to ex-Wray directors Arthur Penwarden and Ron Bettell for providing hitherto unknown facts about the company. Thanks also to Clive Howes for showing me his Wrayflex without serial numbers.

Not only, but also...

Wray made other cameras during and after the Wrayflex. None of which were the company's original designs



Wray Stereo Graphic, the company's only stereo camera

Peckham Wray

Designed by Cyril Peckham, Chief Photographer of the Hawker Siddeley UK group of aircraft companies, this was adapted by Wray to make a 4x5in, large format press camera to use sheet film in a Grafmatic back. A mirror dropped down behind the lens, to reflect its image to an eye-level viewfinder, alongside a traditional wireframe finder. Interchangeable lenses included a 135mm f/4.8 Lustrar standard, 89mm f/6.3 Anastigmat wideangle and 9in f/3.9 telephoto. The camera was launched in 1955, just as press photographers were turning from large format to medium format rollfilm cameras and would soon be switching to 35mm.

Peckham Wray with Grafmatic back, fitted with standard lens, plus wideangle and telephoto lenses



The Wrayflex II adapted as a microscopy camera

Microscopy camera

Made in very limited numbers, this was a specially adapted Wrayflex II made circa 1960. It had no mirror box, a blocked-off viewfinder, a single shutter speed and the film wind key was replaced by a large knob. It could be fitted with a microscope adapter, comprising a tapering tube with a simple lens that fitted to a microscope eyepiece.

Rayner Wray

This was a medical camera made in 1961 and designed to take close-ups of subjects, such as the human eye, using a built-in electronic flashgun. It featured a focusing aid that emitted twin beams of light that registered as semicircles on the subject. As the camera was moved back and forth, they come together to form a circle when the camera was six inches from its target.

Stereo Graphic

Made circa 1950 under licence from Graflex in America, this was similar to the Graflex version, but with twin Wray Stereo 35mm f/4 fixed focus lenses. The focus of each was fixed at a different distance to give a combined depth of field of 4ft to infinity.

Author's note According to my research, a single working model of Studdert's original Uniflex was built and was last seen in the drawing office at the Wray works in Kent during the 1960s. If anyone knows more, I would love to hear from them. I am also seeking a Rayner Wray, for which I have the instruction manual but not the camera. My website has a contact link where readers can get in touch, and also has a special offer on my book *The Wrayflex Story*. Find me at www.johnwade.org



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Stopping the lens down to f/2.8 sees a noticeable improvement in centre sharpness Canon EOS 5DS R, 1/500sec at f/2.8, ISO 200

Samyang AF 85mm f/1.4 EF



Samyang has served up a fast and affordable short telephoto prime with autofocus for Canon users. **Michael Topham** takes a closer look

Korean lens manufacturer, Samyang, is best known for its range of manual-focus lenses. Recently, the company's attention has been diverted towards expanding its line-up of autofocus lenses. Samyang has produced five prime lenses with AF in E-mount for Sony's full-frame A7-series and has developed two prime lenses with AF for Canon users. The AF 85mm f/1.4 EF is the latest example, but don't get this confused with its premium manual focus lens, the XP 85mm f/1.2, or its cheaper sibling, the 85mm f/1.4 AS IF UMC.

Compared to the EF 85mm f/1.4L IS USM (£1,379) that Canon announced last year, this lens is less than half the price. It doesn't feature optical image stabilisation or the same premium build quality, but for those who'd like an affordable and fast short telephoto prime for under £600 it's an intriguing option. It's not just the price that's appealing either. It's 380g lighter than the Canon lens mentioned above and is much more compact than both it and the Sigma 85mm f/1.4 DG HSM Art (£999). All this sounds very promising, so what's not to like about it?

Features

Being an EF lens, the Samyang AF 85mm f/1.4 EF is fully compatible with Canon full-frame DSLRs as well as those that employ an APS-C size sensor. Coupled to the later, or any Canon mirrorless cameras via the EF-EOS M mount adapter, it becomes a practical and creative telephoto prime lens that's equivalent to 136mm. For the purpose of this review it was paired predominantly with the Canon EOS 5DS R.

The main appeal of the lens is its fast maximum aperture, which will attract portrait, wedding and low-light photographers who'd like to isolate subjects from their surroundings and create blurred backgrounds with attractive bokeh. It gathers half a stop more light than Canon's old, but still readily available, EF 85mm f/1.8 USM (£414), and unlike



The lens can be used to draw a viewer's eye to the subject, thus alleviating the issue of distracting or busy backgrounds
 Canon EOS 5DS R, 1/250sec at f/2.8, ISO 100



most of its competition, it's extremely light for its size.

The construction is formed of 9 elements in 7 groups, with one hybrid aspherical lens element. It has nine aperture blades and is equipped with Samyang's Dual type LSM (Linear Supersonic Motor), which is claimed to deliver a fast, accurate and quiet autofocus performance. Samyang has also applied its Ultra Multi-Coating (UMC) to the front element to eliminate the effects of lens flare and ghosting when shooting towards the light. Other technical information not yet mentioned include its 0.90m minimum focusing distance and 77mm filter thread at the front. This is the same size as you'll find on Canon's EF 85mm f/1.4L IS USM lens, but smaller than Sigma's 85mm f/1.4 DG HSM Art, which accepts filters and adapters of the 86mm variety.

Build and handling

The barrel is average size in diameter for an 85mm f/1.4 lens, but very compact in length. It's 72mm long without its plastic hood and rear cap attached, which is almost identical in length to Canon's EF 85mm f/1.8 USM lens that weighs just 60g less. The lens adds only 485g to the camera it's paired with, making it one of the lightest 85mm f/1.4 lenses currently available. The balance of camera and lens doesn't feel front heavy, nor does it feel out of place coupled to a smaller APS-C DSLR.

What you notice when you start comparing it to premium alternatives is that its build quality isn't in the same league. It's not that it's poorly made or badly finished, it's just that the barrel feels quite plasticky and the manual focus ring isn't rubberised. The finely grooved manual focus ring doesn't offer much resistance, and

'The lens adds only 485g to the camera it's paired with'

there's no focus distance window to glance down at. I also found the positioning of the AF/MF switch a fraction too high – you have to reach round the barrel to find it with your thumb rather than come across it naturally when supporting the lens in your hand. Towards the rear of the lens the barrel tapers inward quite sharply and there's a rubber seal that compresses against the mount of the camera to protect against dust and moisture.

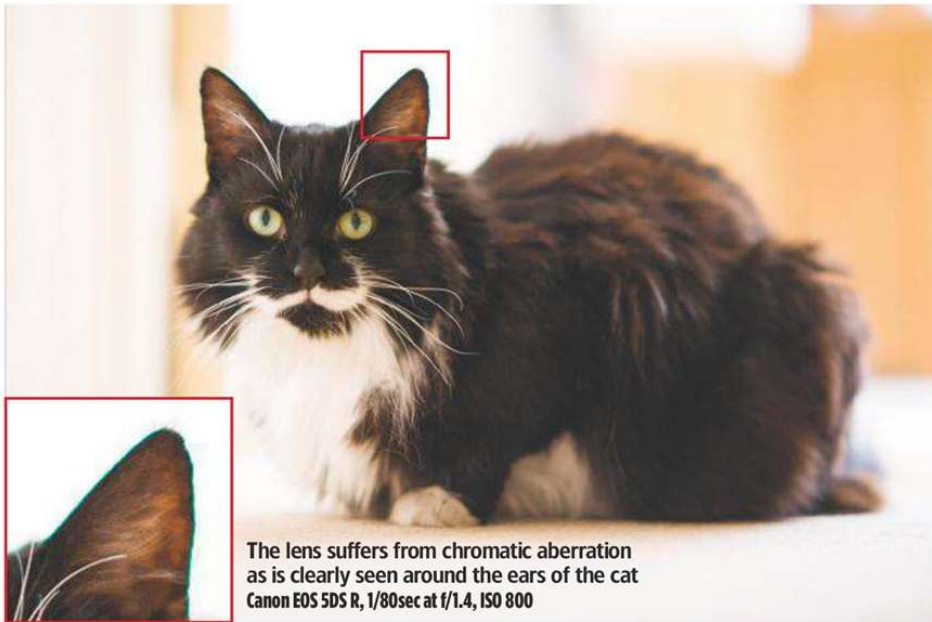
Autofocus

Samyang is still rather new to the idea of incorporating AF into its lenses. AF acquisition is fairly brisk thanks to the inclusion of the Dual type LSM; however its lock-on speed isn't as hasty as the Canon EF 85mm f/1.4L. Carrying out several focusing tests and swapping between different lenses made me aware of an odd AF phenomenon, where if you leave the camera switched on, remove the lens and then reattach it, it refuses to autofocus again until the AF point is highlighted using the AF point selection button and the shutter is half pressed. One way to get around this was to make sure the camera is switched off between changing lenses – this isn't exactly ideal for the wedding and portrait photographers the lens is aimed at, who swap lenses frequently and work quickly. Since testing the lens, I've been told this issue will be rectified by new firmware, which will be added to all lenses before shipments are made.

While the focus motor isn't entirely silent, its high-pitched whirring is unlikely to be intrusive



The lens can be carried around easily on day trips such as a visit to the zoo
 Canon EOS 5DS R, 1/6400sec at f/4, ISO 1600



when used outdoors. Focus accuracy was satisfactory during real-world testing, but with such a fine margin for error and a fast fall off in focus at very wide apertures, you'll want to pay careful attention to your focusing technique, particularly when photographing small subjects against complex backgrounds.

Image quality

With the Canon EF 85mm f/1.4L IS USM and Canon EF 85mm f/1.8 USM in my possession, I couldn't resist comparing their aperture ranges to see where the Samyang lens stands in terms of sharpness. An inspection of shots at high magnification revealed Canon's 85mm f/1.4 delivers far superior sharpness, not just wide open at f/1.4, but also right through the aperture range. Canon's 85mm f/1.8 lens is also sharper than the Samyang wide open and suffers from less spherical aberration. Stopping the Samyang down from f/1.4 to f/2.8 sees an improvement in sharpness, but for a lens we hoped would deliver a strong sharpness performance wide open, it is disappointing. Analysing our results from the lab backed up my real-world findings and confirmed that the best edge-to-edge sharpness is found when it's stopped down to f/5.6. The quality of blur produced in the out-of-focus parts of an image is appealing, and attractive circular highlights are rendered at wide aperture settings.

Sadly, the way the lens handles chromatic aberration isn't better than its sharpness performance. Green and purple fringes of colour are clearly obvious along high-contrast edges at wide apertures. To remove the chromatic aberration, I opened my raw files in Adobe Camera Raw and used the purple amount, green amount and green hue de-fringe sliders under the lens corrections tab. Vignetting is also clearly apparent at f/1.4, with the corners measuring about 1.6EV darker than the centre. Stopping the lens down to f/2 sees a big improvement and by the time f/2.8 is reached vignetting is barely noticeable.

Verdict

The Samyang AF 85mm f/1.4 EF faces stiff competition, yet stands out from other 85mm f/1.4 lenses with its lightweight and compact design. It's an appealing lens as it doesn't add too much bulk and keeps the camera nicely balanced in the hand without feeling front heavy, but is ultimately let down by the sharpness it resolves at its maximum aperture. It's a lens that forces you to stop down to achieve satisfying results, which rather defeats the point of choosing it over an 85mm f/1.8. There's a misconception that f/1.4 primes are always superior to lenses with an f/1.8 maximum aperture, but after comparing and contrasting this prime to Canon's lighter, smaller and more affordable EF 85mm f/1.8 USM, I'd happily choose the latter and be content with slightly less background blur while saving £185. If you're a Canon user after a sensationally sharp 85mm f/1.4 lens and are prepared to pay more, I'd highly recommend the Sigma 85mm f/1.4 DG HSM Art or Canon EF 85mm f/1.4L IS USM ahead of the Samyang AF 85mm f/1.4 EF. Both are considerably heavier, but their optical performances are far superior.



Data file

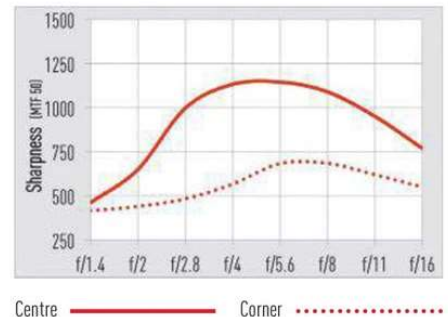
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Samyang AF 85mm f/1.4 EF

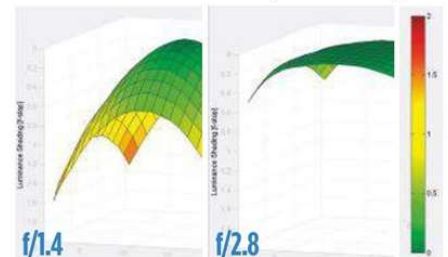
Resolution

The lens produced a poor set of resolution results wide open. As the solid red line on the chart shows, sharpness improves considerably by stopping down to f/2.8, with centre sharpness peaking around f/5.6. The Sigma 85mm f/1.4 DG HSM Art and Canon EF 85mm f/1.4L IS USM produce sharper results wide open and deliver far superior edge sharpness. Corner sharpness gradually improves to where it peaks between f/5.6 and f/8.



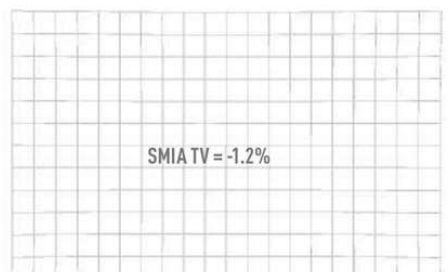
Shading

Using the lens wide open at f/1.4 results in the corners of images appearing about 1.6EV darker than the centre. By f/2.8 corner shading is less severe and unrecognisable in real-world images. At the time of testing a lens profile was unavailable, but the profile for Samyang's 85mm f/1.4 AS IF UMC lens was effective at correcting corner shading.



Curvilinear distortion

Our test shot was taken from a distance of 2m and shows that the lens exhibits minor pincushion distortion. You may notice this in images where straight lines are placed along the edges of the frame, but in most cases you won't notice it and will be able to get away without correcting for it.



CEWE Photobook Pure

Andy Westlake is impressed by this photobook creation app

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IF YOU want to turn your pictures into something less ephemeral than electronic files viewed on a screen, then making a photobook is a great option. There's a real appeal to having a physical record of your favourite shots, and they also make excellent gifts.

While many companies offer sophisticated photobook software for Windows and Mac computers with comprehensive layout and captioning options, the fact is that most photographs are now taken, or at least stored, on smartphones. In recognition of this, photofinishing giant CEWE has released an app called Photobook Pure. As the name suggests, this app is stripped right back to the essentials, with an easy-to-use smartphone-optimised interface.

The concept is simple. The app prompts you to select 22 images from your camera roll, with various filters available to narrow down your search. It then arranges them onto the pages of the book, initially in chronological order. At this point you can drag your photos to reorder them, and crop them using a pinch gesture. If you decide you want to replace an image, pressing the screen opens a selection dialogue. You can add a title to the book's cover and spine, and a short message on the opening page.

Completed books, or works-in-progress, are automatically saved as projects within the app, making it easy to pick up part-finished work, or order another copy of a book. Naturally you can delete projects whenever you want. Once you've finished designing your book, you're taken to the ordering screen. Here you can change the number of copies, or add further books from other projects. You can also choose a delivery address that's different to your billing address, which is ideal for gifts.

CEWE gives a delivery estimate of 4-6 working days, and you can track the progress of your order. Mine was printed within two days of ordering and arrived three days later. The book comes well-protected in a corrugated cardboard package, and print quality is impeccable, with vibrant colours and perfectly neutral black & white images. There's some CEWE branding at the back, but it's not remotely objectionable.

Verdict

With Photobook Pure, CEWE has designed a clever app that manages to be simple and intuitive to use, while including all the features you need and stripping out those you don't. It then delivers a really attractive photobook that arrives quickly and well-packed. You couldn't really ask for much more.

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The photobook comes with a protective cardboard case.

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CEWE has stripped the app back to the basics, making it very easy to use even on a smartphone with a small screen.



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If you want to make larger or more complex photobooks, CEWE provides the option via its Photoworld service, using free software that's available for Windows and Mac. Sizes range from 14x13cm up to 38x29cm, and books can be ordered with 26 pages up to a maximum of 178, depending on size. There's a choice of six paper types, and softback or hardback covers. I was really impressed with the service when I reviewed it in the 13 August 2016 issue of AP.

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Slow-sync flash

Q I take a lot of indoor portraits and lately have found it beneficial to use slow-sync flash when taking these. It improves the lighting on the subject, but sometimes the background is very dark and I have to do a lot of work with the Quick Selection Tool in PhotoShop Elements to brighten the background. Could you advise me on how to use slow-sync flash better? I use a Canon EOS M6, an EF 50mm f/1.4 lens at maximum aperture, and the built-in flash.

Martin Houlton

A For the benefit of the readers, slow-sync flash is a technique that slows down the shutter speed while using flash. It's often used for an effect where the main subject is frozen and sharp while background motion, not frozen by the flash, creates artistic blur. I'd advise switching off auto flash modes when using slow sync. In Martin's case, it's not clear how slow sync improves the lighting on the subject. If there is reasonably bright ambient light on the subject, the on-camera flash would need to be turned down to avoid overexposure and the combination of low-power flash and ambient light could be interesting. But Martin is finding that the background is coming out too dark. By the inverse



Martin Houlton asks for advice using slow-sync flash on his EOS M6

You need to have the right lens to take decent images of the Milky Way



How to take Milky Way photos

Q I'm on holiday in a remote part of central France in mid-August. Motivated by my experience of the region in the recent past, when the lack of light pollution facilitated a view of the Milky Way with the naked eye, I'd like to capture it on my Nikon D3400. However, I only have the standard kit lens. Will this do the job and do you have any other advice? I don't have a tripod of my own but a friend has agreed to lend me one.

Lee Huddleston

A You will certainly be able to get an image of the Milky Way with your D3400, but the standard 18-55mm kit lens is not ideal for a couple of reasons. First, at the widest (18mm) zoom setting the maximum aperture is f/3.5 and less light is transmitted than is ideal. In

order to reduce the exposure time and avoid an increase in ISO setting that could introduce unwanted image noise, f/2.8 or faster is better. Second, at 18mm the view is only going to capture a small portion of the sky. This limits your composition, but more importantly it means that the rotation of the earth will show more quickly, so you risk seeing distorted stars as they move during the exposure.

For a better result, try to get hold of something like a Samyang 12mm f/2.8 fisheye lens. Don't be concerned that it is designed for full-frame bodies, it will still work well on a crop-frame (DX) camera such as yours. This lens can be found for under £300 if you shop around. Check a moon-phase calendar – avoid the days when the moon is bright in the sky. This year the moon is at its darkest on 11 August. Use the live view mode on your camera focus

precisely; use manual focus only if using an AF-capable lens. Set the camera to ISO 3200. I'd recommend using raw (NEF) file mode instead of JPEG so you can manage noise and exposure in post-processing. The next step is to select a shutter speed that is as long as possible to bring the brightness of the Milky Way out but to avoid planetary motion blur.

The so-called '500' rule works well: divide 500 by the focal length of the lens you are using. Let's say you are using the 12mm Samyang. First, correct for the crop factor by multiplying 12 by 1.5=18. Then $500 \div 18 = 27.8$, so keep the shutter open for 28 seconds and no longer. For your 18mm kit lens the calculation would be $18 \times 1.5 = 27$, $500 \div 27 = 18.5$ seconds. To avoid disturbing the camera use the self-timer mode to trigger the shutter a few seconds after pressing the shutter button. Good luck!

square law the power of the on-camera flash drops off sharply with distance and probably won't be lighting up the background much, if at all. Therefore, you can ignore the flash in order to expose adequately for the background.

For this you would need to slow the shutter speed as far as necessary. Depending on how bright the main subject is in relation to the background you may find you need to turn down the power on the flash, or even abandon the flash altogether.

Adjusting the ISO setting is another tool at your disposal if the shutter speed gets too slow. You could also light up the background with a set of secondary external flash units.

Q&A compiled by Ian Burley



Protecting your camera kit at home and away

You've invested time and money into your photography so why wouldn't you invest in protecting your camera and equipment?

If you're shooting a landscape, wildlife or street photography, whether in the UK or abroad, the risk of theft is always present. Accidents can also happen, whether it's your fault or someone else's – dropping a lens or knocking over a tripod are easy but can be expensive mistakes to make.

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Professor Newman on...

The great kilopixel race

The multi-kilopixel metering sensor is a development brought about by the autofocus system

On its release in 1999, the Nikon D1 was equipped with Nikon's state-of-the-art exposure meter, using a 1,005 pixel CCD as its sensor, which was retained for the D2H, released in 2003, and the D3 in 2007. Then in 2012, the D4 upped the ante with a metering sensor boasting 91,000 pixels, and in 2016 the D5 increased the pixel count to 180,000. While Canon was slower off the mark, once it got into its stride, its advance in meter pixels shows an even faster progression, with the 2001 EOS-1D being equipped with a paltry 21 regions or 'pixels' in its metering sensor, which was retained for the 2004 Mark II, but replaced in the 2007 Mark III with a 63 'pixel' unit, kept for the 2009 Mark IV. The 2011 1D X, however, followed Nikon's kilopixel lead, increasing it 100-fold with a sensor of 100,000 pixels. The 2016 1D X Mark II soundly trumped its competitor with 360,000 pixels.

Exposure meter

At this stage in the proceedings, it's worth summing up the function of a camera exposure meter. The ISO setting dictates what should be the exposure at the sensor to achieve a particular tone in the final image. Specifically, the standard defines what should be the exposure for an 18% grey object. If the light from such an object does not result in the specified exposure for that ISO, then the object will be rendered the wrong shade of grey. So, setting the exposure means that it is necessary to define what is the shade of grey of the objects in the scene. The meter has no certain way of doing that. Early through-the-lens meters used 'average'

The Nikon F5 introduced kilopixel metering in 1996

metering, which assumes that the average exposure over the whole frame will be close to an 18% grey. The problem with this approach is while it's often true, quite often it isn't. The next refinement was 'centre-weighted', which gave more attention to the centre part of the frame and thereby reduced the instances of error. A further refinement was 'evaluative metering', introduced by Nikon in the 1983 FA. This camera's meter had just five 'pixels'. Nikon analysed the way in which thousands of 'typical' scenes excited these five different areas to derive optimum exposure decisions. When the meter was in operation, a simple microprocessor used the pattern from the meter to select the appropriate pre-computed exposure adjustment.

As more powerful microprocessors became available and more data from the meter could be processed, the number of areas used began to increase. The

1,005 pixel sensor in the D1 was actually designed for the 1996 F5. As well as having many pixels the F5 endowed them with red, green and blue sensitivity, to allow further discrimination between different types of photo, and more consistently. This metering system was so good that Nikon stuck with it for 14 years. What, then, caused the sudden escalation to hundreds of kilopixels?

The answer is autofocus. For these top-end sports/action cameras, secure focus tracking was a prized capability. A conventional AF system has to identify an object to be tracked based purely on its distance, and in cases where there is an object at similar distance to the subject, the system can lose track of the intended subject. The multi-kilopixel metering sensor has sufficient imaging capability to be able to identify objects from shade and colour, and can thus provide the AF system with information about the movement of the subject across the frame.



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Bob Newman is currently Professor of Computer Science at the University of Wolverhampton. He has been working with the design and development of high-technology equipment for 35 years and two of his products have won innovation awards. Bob is also a camera nut and a keen amateur photographer



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NIKON 10.5 f2.8 "G" IF-ED AF DX FISHEYE.....	MINT BOXED £399.00
NIKON 20mm f2.8 A/F "D".....	MINT - £325.00
NIKON 28mm f2.8 A/F "D".....	MINT £165.00
NIKON 28mm f2.8 A/F "D".....	MINT £135.00
NIKON 50mm f1.8 A/F "D".....	MINT BOXED £99.00
NIKON 50mm f1.4 "G" LATEST.....	MINT + HOOD £295.00
NIKON 60mm f2.8 A/F D MACRO LENS.....	MINT £265.00
NIKON 85mm f3.5 ED DX AF-S VR MICRO NIKKOR.....	MINT-HOOD £345.00
NIKON 300mm f4 IF-ED AF-S SUPER LENS AS NEW.....	MINT-CASED £275.00
NIKON 16 - 35mm f4 "G" ED AF-S VR LATEST.....	MINT BOXED £754.00

NIKON 17 - 35mm f2.8 IF-ED AF-S SUPERB LENS.....	MINT BOXED £599.00
NIKON 18 - 35mm f3.5/4.5 "G" ED AF-S LATEST.....	MINT BOXED £499.00
NIKON 24 - 120mm f4 "G" ED AF-S VR LATEST MODEL.....	MINT BOXED £745.00
NIKON 35 - 70mm f3.5/4.5 A/F + HOOD.....	EXC++ £49.00
NIKON 35 - 70mm f3.5/4.5 A/F + HOOD.....	MINT - £129.00
NIKON 55 - 200mm f4.5/5.6 "G" ED VR II LATEST + FILTER MINT BOXED £1,445.00	
NIKON 70 - 200mm f2.8 ED AF-S VR II LATEST.....	MINT BOXED £1,375.00
NIKON 80 - 400mm f4.5/5.6 "G" ED AF "D" VR.....	MINT-BOXED £525.00
NIKON 80 - 400mm f4.5/5.6 "G" ED AF-S VR LATEST.....	MINT BOXED £1,855.00
NIKON 200 - 500mm f5.6 ED AF-S VR LENS LATEST.....	MINT BOXED £1,075.00
NIKON TC2E II X2 AF-S TELECONVERTER.....	MINT - £195.00
TAIRNOR 1 X4 AF II TELECONVERTER NIKON FIT.....	MINT- £99.00
TELEPLUS TR2 X2 CONVERTER NIKON AF D.....	MINT - £99.00
SIGMA 2X EX DG TELECONVERTER.....	MINT - £145.00
SIGMA TC2001 ED GLASS LATEST MODEL.....	MINT BOXED \$5 NEW £225.00
SIGMA 24mm f1.4 EX DGHSM ART LENS NIKON FIT.....	MINT BOXED \$5 NEW £145.00
SIGMA 30mm f1.4 EX DG HSM ART LENS.....	MINT BOXED AS NEW £199.00
SIGMA 50mm f2.8 EX MACRO D.....	EXG++ £129.00
SIGMA 105mm f2.8 EX APO DG MACRO.....	MINT BOXED £245.00
SIGMA 10 - 20mm f4.5/5.6 EX DG HSM.....	MINT BOXED £249.00
SIGMA 15 - 30mm f3.5/4.5 EX DG FULL FRAME.....	MINT - £245.00
SIGMA 70 - 300mm f2.8 EX DG HSM.....	MINT BOXED £325.00
SIGMA 70 - 300mm f4/5.6 DG HSM D5300 COMP.....	MINT BOXED £110.00
TOKINA 12 - 24mm f4 EX D-AF ASPHERICAL AT-PRO.....	MINT-HOOD £299.00
TOKINA 16 - 50mm f2.8 ASPHERICAL AT-PRO DX.....	MINT BOXED £275.00
NIKON 80 - 400mm f4.5/5.6 AT-D.....	MINT BOXED £245.00
TOKINA 35mm f2.8 ATX PRO DX MACRO 1:1 LATEST.....	MINT BOXED £236.00

Fujifilm X Series Lenses		
10-24mm F4 XF R OIS.....	E++ £649	
12mm F2.8 Touit - Zeiss.....	Mint- £549	
14mm F2.8 XF.....	E++ £499	
16-50mm F3.5-5.6 OIS XC - Silver.....	E++ £129	
16-55mm F2.8 R LM WR XF.....E++ / Mint- £749 - £789		
16mm F1.4 R WR XF.....	Mint- £709 - £719	
18-135mm F3.5-5.6 LM OIS WR XF.....	E++ £499	
18-55mm F2.8-4 R LM OIS XF.....	E++ £279	
18mm F2 XF R.....	E++ £239 - £249	
27mm F2.8 XF.....	E++ £219	
35mm F1.4 XF R.....	E+ / E++ £319 - £349	
35mm F2 XF WR - Silver.....	Mint- £289	
50-140mm F2.8 WR OIS XF.....E++ / Mint- £949 - £1,049		
56mm F1.2 R APD XF.....	E++ £849	
56mm F1.2 R XF.....	E+ / E++ £619 - £659	
Olympus Micro 4/3rds		
9-18mm F4-5.6 M.Zuiko ED.....	Mint- £369	
12-40mm F2.8 M.Zuiko.....E++ / Mint- £539 - £579		
12mm F2 ED M.Zuiko - Silver.....	Mint- £399	
14-150mm F4-5.6 M.Zuiko ED.....	E++ £349	
14-42mm F3.5-5.6 EZ M.Zuiko.....	Mint- £139	
17mm F1.8 M.Zuiko - Black.....E++ / Mint- £259 - £279		
25mm F1.2 M.Zuiko PRO.....	E++ / Mint- £789	
30mm F3.5 M.Zuiko Macro.....	Mint £179	
40-150mm F2.8 M.Zuiko Pro.....Exc / E++ £749 - £899		
75-300mm F4.8-6.7 ED II M.Zuiko.....	E++ £239	
75mm F1.8 ED M.Zuiko - Black.....	Mint- £469	
75mm F1.8 ED M.Zuiko - Silver.....	Mint- £469	
Panasonic Micro 4/3rds		
12-32mm F3.5-5.6 OIS G.....E++ / Mint- £129 - £159		
12-35mm F2.8 G X Vario OIS.....	E++ £469	
12-60mm F3.5-5.6 G Vario OISE++ / Mint- £239 - £259		
14-140mm F3.5-5.6 G OIS.....	E++ £339	
14-42mm F3.5-5.6 Asph OIS.....	E++ £59 - £69	
14-45mm F3.5-5.6 ASPH G Vario.....E+ / E++ £79 - £119		
25mm F1.4 DG Summilux.....	E++ / Mint- £229	
30mm F2.8 Macro Asph OIS.....	E++ £179	
42.5mm F1.7 G OIS.....	Mint- £239	
45-150mm F4-5.6 Asph OIS.....E++ / Mint- £129 - £139		
45-200mm F4-5.6 Lumix G Vario.....	E++ £159	
45-200mm F4-5.6 OIS.....	E+ £129 - £139	
45mm F2.8 DG Asph Macro.....	E++ £329	
Sony E-Mount Lenses		
10-18mm F4 E OSS.....	Mint- £539	
16-70mm F4 ZA OSS.....	Mint- £549	
16mm F2.8 E.....	Mint- £79	
19mm F2.8 DN - A Sigma.....	Mint- £99	
20mm F2.8 Firlin Tokina.....	E+ £479	
21mm F2.8 Loxia Zeiss.....	Mint- £949	
24-70mm F4 FE ZA OSS.....E+ / E++ £569 - £629		
24mm F1.4 ED AS UMC Samyang.....	E++ £209	
25mm F2.8 Batis Distagon T* Zeiss.....	Mint- £699	
28-70mm F3.5-5.6 FE OSS Sony.....	E++ £199	
30mm F2.8 EX DN Sigma.....	E++ £95	
30mm F3.5 E Macro.....	E++ £119	
32mm F1.4 Touit E Zeiss.....	E++ £329	
35mm F2 Loxia - Zeiss.....	Mint- £789	
50mm F2 Loxia Zeiss.....	Mint- / Mint £449 - £519	
50mm F1.8 OSS.....	Mint- £159	
55-210mm F4.5-6.3 OSS.....	Mint- £119	
100mm F2.8 FE STM G Master OSS.....	Mint- £1,189	
135mm F2.8 Batis Apo-Sonnar T* Zeiss.....	Mint- £1,149	
OX10 Smart Phone Lens.....	Mint- £79	
CANON PRO CENTRE		
Canon Auto Focus Lenses		
8-15mm F4 L Fisheye USM.....	E++ / Mint- £749	
10-22mm F3.5-5.6 EFS.....	E+ / E++ £219 - £259	
10-24mm F3.5-5.6 Di II LD Asph Tamron.....	E++ £239	
11-16mm F2.8 DX ATX Tokina.....	E++ £259	
11-24mm F4 L USM.....	E++ / Mint- £1,949 - £1,999	
12-24mm F4 AF PRO DX ATX MKII Tokina.....	Mint- £299	
12-24mm F4 ATX PRO SD Tokina.....	E++ £199	
10-20mm F4-5.6 DC HSM Sigma E+ / E++ £159 - £189		
12-24mm F4.5-5.6 EX DG HSM Sigma.....	E++ £249	
14mm F2.8 L USM II.....	E++ £849	
14mm F3.1 T ED AS IF UMC Samyang.....	E+ £195	
15-45mm F3.5-6.3 IS STM EF-M.....	Mint- £119	
15mm F2.8 EF Fisheye.....	E+ / E++ £345 - £449	
16-35mm F2.8 L USM II.....	Unused £1,849	
16-35mm F2.8 L USM MKII.....	E++ £799	
16-35mm F4 L USM.....	Mint- £749	
16-50mm F2.8 ATX Pro DX Tokina.....	E++ £289	
17-40mm F4 L USM.....	E+ £349	
17-85mm F3.5-5.6 IS USM.....	E+ £129	
17mm F4.0 L TSE.....	E++ £1,549	
18-135mm F3.5-5.6 IS USM.....	Mint- £319	
18-150mm F3.5-6.3 IS STM EFM.....	Mint- £209	
18-200mm F3.5-6.3 XR Di II Tamron.....	E++ £89	
18-55mm F3.5-5.6 EFS.....	E++ £49	
18-55mm F3.5-5.6 EFS IS.....	E++ £65 - £79	
19-35mm F3.5-4.5 MC.....	E+ £59	
20-35mm F2.8 ATX Pro Tokina.....	E+ £229	
20-35mm F3.5-4.5 USM.....	E++ £139	
21mm F2.8 Distagon ZE Zeiss.....E+ / Mint- £659 - £739		
24-105mm F4 L IS USM.....15 Days / E++ £299 - £399		
24-70mm F2.8 L USM II.....E+ / Mint- £1,049 - £1,189		
24-70mm F4 L IS USM.....	E+ / Mint- £449 - £549	
24-85mm F3.5-4.5 USM.....	E++ £139	
24mm F1.4 L USM.....	E+ / E++ £599 - £649	
24mm F1.4 L USM MKII.....	E++ / Mint- £949 - £999	
24mm F3.5 L TSE.....	15 Days £499	
24mm F3.5 L TSE MKII.....	E++ £1,199 - £1,239	
28-105mm F3.5-4.5 USM.....	E++ £119	
28-135mm F3.5-5.6 IS USM.....	E++ £159	
28-75mm F2.8 XR Di AF Tamron.....	E+ £159	
35-135mm F3.3-4.5 Vario Zeiss.....	E++ £349	
40mm F2.8 STM.....	E++ / Mint- £119 - £129	
45mm F2.8 TS-E.....	E+ £649	
50mm F1.2 L USM.....	Unused £949	
50mm F1.4 USM.....	E++ / Mint- £199 - £229	
50mm F1.8 EF II.....	E++ / Mint- £599 - £669	
50mm F2 ZE Macro Zeiss.....	E++ £699	
50mm F2.5 EF Macro.....	E++ £169	
60mm F2.8 Macro USM EFS.....	Mint- £239	
70-200mm F2.8 L IS USM IIE++ / Mint- £1,299 - £1,369		
70-210mm F3.5-5.6 USM.....	E++ £99	
70-300mm F4-5.6 IS USM.....	E++ / Mint- £199 - £219	
75-300mm F4-5.6 EF III.....	E++ £59	
75-300mm F4-5.6 III.....	E++ £89	
75-300mm F4-5.6 IS USM.....	E++ £199	
800mm F5.6 L IS USM.....	E+ £6,989	
85mm F1.2 L USM MKII.....E++ / Unused £999 - £1,249		
85mm F1.4 L IS USM.....	Mint- £1,199	
85mm F1.8 USM.....	E++ £219	
90-300mm F4.5-5.6 EF.....	E++ £79	
90mm F2.8 SP Di Macro Tamron.....	Mint- £229	
90mm F2.8 Tilt-Shift Lens.....	E++ £679	
100-300mm F4.5-5.6 USM.....	E+ £69	
100mm F2 ZE Macro Zeiss.....E++ / Mint- £749 - £799		
100mm F2.8 L Macro IS USM.....	E++ £549	
135mm F2 L USM.....	E++ / Mint- £549 - £599	
120-300mm F2.8 EX HSM Apo DG Sigma.....	E++ £699	
150-600mm F5-6.3 DG OS HSM C Sigma.....	E++ £649	
150-600mm F5-6.3 DG OS HSM Sport Sigma E++ £989		
170-500mm F5-6.3 Apo Sigma.....	E+ £159 - £199	
180mm F3.5 EX Macro Apo.....	E++ £299	
180mm F3.5 Di Macro AF Tamron.....	E++ £399	
180mm F3.5 EF L Macro USM.....	E++ £849	
200-400mm F4 L IS USM with Internal 1.4x Extender Lens.....E++ £7,989		
200mm F1.8 L USM.....	15 Days £1,499	
200mm F2.8 L USM II.....	E++ £399 - £429	
300mm F2.8 L IS USM.....	E+ / E++ £1,989 - £2,479	
300mm F2.8 L IS USM MKIIE++ / Mint- £3,999 - £4,189		
300-800mm F5.6 Apo EX DG HSM Sigma.....	E++ £3,399	
300mm F2.8 Apo DG HSM Sigma.....	E++ £1,149	
400mm F2.8 L IS USM.....	E+ / E++ £3,689 - £3,889	
400mm F2.8 L USM.....	E+ £2,449	
400mm F4 DO IS USM.....	E+ / E++ £1,879 - £1,979	
500mm F4 L IS USM.....	E+ £3,449	
500mm F4 L IS USM MKII.....	E+ £5,950	
500mm F4.5 L USM.....	E+ £2,149	
500mm F8 SP Reflex Tamron.....	E+ £179	
1.4x EF Extender.....	Exc £79	
2x EF Extender.....	15 Days / E++ £59 - £129	
2x EF II Extender.....	E++ £169	
2x EF MkIII Extender.....	E++ / Mint- £289 - £319	
Contax G		
G1 Body + G01 Back.....	E++ £249	
21mm F2.8 G + Finder.....	E++ / Mint- £399 - £549	
28mm F2.8 G.....	15 Days / E++ £149 - £249	
28mm F2.8 G - Black.....	E++ £299	
90mm F2.8 G.....	E+ / E++ £169 - £229	
Contax SLR Lenses		
25mm F2.8 MM.....	E++ £349	
28-70mm F3.5-4.5 MM.....	E++ / Mint- £249 - £279	
28-80mm F3.5-5.6 AF.....	Unused / New £349 - £399	
35mm F2.8 PC Shift AE.....	E++ £1,099	
50mm F1.4 AF.....	E++ £399 - £449	
70-200mm F3.5-4.5 AF.....	E++ £299	
70-300mm F4-5.6 AF.....	E++ / Unused £349 - £649	
100mm F2 AE.....	E+ £599	
135mm F2 (60 Year Edition).....	Unused £2,379	
135mm F2.8 AE.....	E+ / Mint- £159 - £249	
135mm F2.8 MM.....	E+ / E++ £169 - £199	
180mm F2.8 AE.....	E++ £349	
180mm F2.8 MM.....	E++ £349	
200mm F3.5 AE.....	E+ / E++ £129 - £149	
200mm F4 AE.....	Unused £449	
300mm F4 MM.....	E+ £269	
Digital Mirrorless		
FujiFilm X-E1 Black Body Only.....	E++ £179	
X-E2 Black Body Only.....	E++ £279	
X-E2 Chrome Body Only.....15 Days / E++ £189 - £279		
X-M1 Silver Body Only.....	E+ / E++ £149	
X-Pro1 Body Only.....	E+ £229	
X-Pro2 Body Only.....	E++ £399	
X-Pro2 Body Only.....	E+ £949	
X-T1 Black Body Only.....	E++ / Mint- £399 - £419	
X-T1 Body Only.....	E+ / Mint- £339 - £419	
X-T10 Black Body Only.....	E+ / E++ £279	
X-T10 Silver Body Only.....	E+ £299	
X-T2 Black Body + Handgrip.....	E+ £879	
X-T2 Black Body + VP8-XT2 Vertical PB Grip E++ / Mint- £899 - £949		
X-T2 Black Body Only.....	Mint- £849	
X-T2 Black Body Only.....	E++ £799	
X-T20 Body Only - Silver.....	E++ £599	
X100T - Silver.....	E++ £649 - £689	
Olympus E-M1 Silver Body + HLD-7 Grip.....		E++ £459
E-M10 MKII Chrome Body Only LTD.....	Mint- £349	
E-M10 MKII Silver Body Only.....	Mint- / Mint £289	
E-M10 MKIII Black Body Only.....	Mint- £469	
E-M5 MarkII Body + ECG-2 grip.....	E+ £599	
E-PL5 Black Body Only.....	E++ £139	
OMD E-M5 MKII Body + HLD-8G Grip.....	E++ £549	
OMD E-M5 Silver Body Only.....	E+ £229	
Pen-F Black Body Only.....	Mint- £719	
Pen-F Silver Body Only.....	E+ £679	
Sony A7 II Body + VG-C2EM Grip.....		Mint- £939
A7 II Body Only.....	E+ / Mint- £789 - £869	
A7R II Body Only.....	E++ £1,449	
A7S II Body Only.....	E++ £1,849	
A7 Body Only.....	Exc £399	
A6300 + 16-50mm.....	E+ £579	
A6300 Body Only.....	E++ £539	
Digital SLR Cameras		
Canon EOS 1DX Body Only.....		15 Days £1,699
EOS 30D Body Only.....	E+ / E++ £59 - £69	
EOS 350D Body Only.....	15 Days £49	
EOS 400D + 18-55MM.....	E+ £119	
EOS 40D + BG-E2 Grip.....	E+ £129	
EOS 450D Body Only.....	E+ £219	
EOS 500D Body Only.....	15 Days £79	
EOS 5D + BG-E4 Grip.....	E+ £249	
EOS 5D MKIII Body Only.....15 Days / E++ £749 - £1,449		
EOS 5DS Body + BG-E11 Grip.....	Mint- £2,099	
EOS 5DS Body Only.....	E+ / E++ £1,689 - £1,899	
EOS 5DS R Body Only.....	Mint- £1,999	
EOS 600D Body + BG-E8 Grip.....	E+ £279	
EOS 60D Body Only.....	E+ / E++ £249 - £279	
EOS 650D Infra Red Body Only.....	E++ £429	
EOS 6D Body + BG-E13 Grip.....	E+ £699	
EOS 6D Body Only.....	E+ / E++ £689	
EOS 70D Body Only.....	E+ £499	
EOS 7D + BG-E7 Grip.....	E+ £359	
EOS 7D Body Only.....	Exc / E++ £299 - £399	
EOS 7D MKII Body Only.....	Mint- £799	
EOS M50 + 15-45mm.....	Mint- £499	
EOS M50 Body Only.....	Mint- £449	
Nikon D3 Body Only.....		15 Days / E++ £449 - £799
D3200 Black Body Only.....	E+ £169	
D3300 Body Only.....	Mint- £249	
D3400 Body Only.....	E++ / Mint- £269 - £279	
D3S Body Only.....	15 Days £749	
D4 Body Only.....	E+ £1,749	
D4S Body Only.....	E++ £2,879	
D5 Body Only (Dual XQD).....	Mint- £3,979	
D50 Body Only.....	15 Days £39	
D500 Body Only.....	15 Days / E++ £799 - £1,249	
D5500 Body Only.....	E++ £349	
D5500 Body Only - Black.....	E+ £349	
D60 Body Only.....	E++ £99	
Hasselblad V Lenses		
40mm F4 C Black.....	Exc £399	
50mm F4 CF.....	15 Days £249	
50mm F4 CF FLE.....	E+ £799	
120mm F4 CF Macro.....	Exc / E++ £349 - £499	
120mm F4 CFE Macro.....	E++ £989 - £999	
150mm F4 CF.....	Mint- £799	
160mm F4.8 CB.....	E++ £349	
250mm F5.6 CF.....	E++ £349	
250mm F5.6 Chrome.....	15 Days £99	
350mm F5.6 C Black.....	E+ £349	
Leica M		
M (240) Black Body Only.....	E+ / E++ £2,599 - £2,849	
M (240) Chrome Body Only.....	E++ £2,699 - £2,749	
M-P Chrome Body Only.....	E++ £3,489	
M-A (Type 127) Black Body Only.....	E++ £2,599	
MDA Chrome Body Only.....	E+ £299	
MP 0.72x Ralph Gibson Edition.....	Mint- £5,899	
21mm F2.8 M Black.....	Exc / E+ £689 - £939	
21mm F2.8 M Black + Finder.....	E+ £889	
21mm F3.4 Chrome.....	OMD E-M5 Silver Body Only.....	E+ £229
21mm F4 Chrome + Finder.....	Exc / E+ £749 - £799	
24mm F1.4 Asph M - Black.....	Mint- £3,289	
24mm F2.8 Asph M Black.....	Exc / E++ £899 - £1,099	
24mm F2.8 Asph M Black 6bit.....	E+ £1,049	
24mm F3.8 Asph M Black.....	E+ £1,099	
280mm F4.8 Telyt.....	E+ £229	
28mm F2 Asph M Black 6bit.....	E++ £1,849 - £1,899	
28mm F2.8 M Black.....	E+ £549	
35mm F1.4 M Titaniun.....	E+ £1,899	
35mm F2 Asph M Black.....	E++ £1,249	
35mm F2 Asph M Black 6bit E+ / Mint- £1,599 - £1,749		
35mm F2.4 Asph M Black 6bit.....	Mint £1,199	
50mm F2 Black.....	E+ £699	
50mm F2.8 Elmar.....	15 Days £289	
65mm F3.5 Elmar.....	E+ / Mint- £159 - £299	
75mm F2 Apo M Black 6bit.....	E+ / E++ £1,599 - £1,699	
75mm F2.4 M Black 6bit + Hood.....	Mint- £999	
75mm F2.5 M Black 6bit + Hood.....	E+ £849	
90mm F2 Apo M Black.....	E+ / E++ £1,499 - £1,799	
90mm F2 Chrome.....	E+ / E++ £599	
90mm F2 M Black.....	E+ £749	
90mm F2.5 M Black 6bit.....	E++ £499	
90mm F2.8 M Black.....	E+ / E++ £399 - £749	
90mm F2.8 M Black 6bit.....	E++ £849	
Mamiya 645		
645 Pro Complete + Finder.....	E+ £349	
645 ProTL Complete + AE Prism.....	E+ £449	
M645J Body + WLF.....	E++ £149	
55mm F2.8 N.....	E++ £149	
75-150mm F4.5 C.....	E++ £189	
105-210mm F4.5 C ULD.....	E+ £99	
150mm F3.5 C.....	E+ £115	
150mm F4 C.....	E+ £39	
210mm F4 C.....	15 Days / E+ £49 - £99	
300mm F5.6 C.....	E+ / E++ £99 - £109	
500mm F8 C Reflex.....	E+ £279	
120 Insert.....	E+ £15	
120 Pro Mag.....	E+ / E++ £59	
220 Insert.....	E++ £10 - £20	
Plain Prism 645.....	E- £29	
Mamiya 645AFD		
645AFD II Complete + P45 (Phase One).....	E++ £3,250	
645AFD Complete.....	E++ £699	
645AF Complete.....	E+ £500	
645AF Complete with P45+ Digital Back.....	E++ £3,689	
55-110mm F4.5 AF.....	E++ £349	
80mm F2.8 AF.....	E+ £199	
105-210mm F4.5 AF.....	E++ £359	

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150mm F3.5 AF..... 15 Days / E++ £169 - £299
210mm F4 AF ULD..... E++ £399

Mamiya 7/7II

7II Black + 65mm F4..... E++ £2,199
43mm F4.5 L + Finder..... E++ / Mint- £649 - £799
50mm F4.5 L + Finder..... E++ £849
150mm F4.5 L..... E++ £349
210mm F8 L + Finder..... E++ / Mint- £299 - £599
Finder 150/210 FV704..... E++ £149
Finder 150mm FV702..... E++ £129
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Quick Shoe A0702..... E++ / Mint £79 - £99
Tripod Adapter N..... E++ £20
ZE702 Polarising Filter..... E++ / Mint- £65 - £69

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10-20mm F4-5.6 EX DC Sigma..... E++ £179
12-24mm F4.5-5.6 EX DG Sigma..... E- £269
16-35mm F2.8 ZA SSM..... E- £749
16-50mm F2.8 DT SSM..... E- £289
16-80mm F3.5-4.5 ZA..... E++ £249
16mm F2.8 Fisheye..... E++ £499
17-70mm F2.8-4 DC OS Macro HSM Sigma..... E- £199
17-70mm F2.8-4.5 DC Sigma..... E- £119
17-50mm F2.8 Di II Tamron..... E- £179
18-200mm F3.5-5.6 DT..... E- £239
18-300mm F3.5-5.6 DC OS HSM Sigma C..... E++ £199
18-55mm F3.5-5.6 SAM..... E++ £49
18-70mm F3.5-5.6 DT..... E+ / E++ £49 - £69
20mm F1.8 EX DG Sigma..... E++ £219
24-70mm F2.8 IF EX DG HSM Sigma..... E++ £349
28-105mm F4-5.6 UC Sigma..... E++ £39
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55-200mm F4-5.6 DT..... E+ / E++ £39 - £49
55-200mm F4-5.6 DT SAM..... E++ £49
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Nikon AF Lenses

10-24mm F3.5-4.5 G AFS DX..... E++ / Mint- £429 - £449
10.5mm F2.8 G AF ED DX Fisheye..... E+ / E++ £289 - £299
12-24mm F4 G AFS DX ED..... E++ / Mint- £349 - £399
14-24mm F2.8 G AFS ED..... E- £819 - £849
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16mm F2.8 AFD Fisheye..... E+ / E++ £449
17-55mm F2.8 G AFS DX IFED..... E- £239
18-105mm F3.5-4.5 G AFS ED DX VRE+ / Mint- £119 - £129
18-135mm F3.5-5.6 G AFS DX..... E- £99
18-140mm F3.5-5.6 AF-S G ED VR DX..... Mint- £259
18-200mm F3.5-5.6 G AFS DX VR II..... E++ £289
18-300mm F3.5-6.3 AFS DX VR..... Mint- £499
18-55mm F3.5-5.6 G AF-P DX..... Mint- £49 - £59
18-55mm F3.5-5.6 G AF-P DX VR..... Exc £49
18-55mm F3.5-5.6 G AFS VR..... E++ £69
18-70mm F3.5-4.5 G AFS ED DX..... E+ / E++ £49 - £85
20mm F2.8 AFD..... E- £249
24-120mm F3.5-5.6 ED AFD..... E++ £149
24-120mm F3.5-5.6 G AFS ED VR..... E++ £219
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24-85mm F3.5-4.5 G AFS..... Exc £79
24-85mm F3.5-4.5 G AFS VR..... E++ £269
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70-300mm F4-5.6 ED AFD..... E- £89 - £109
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80-200mm F2.8 ED AFD..... E- £249
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105mm F1.4 E ED AF-S..... Mint- £1,499 - £1,589
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300mm F2.8 IFED AF-I..... E++ £1,299
300mm F4 AF ED..... 15 Days £199
500mm F4 AFS IFED..... E++ £2,449
600mm F4 AFS IFED DII..... E++ £3,939
TC-14EIII Converter..... Mint- £379
TC-17 EII Converter..... E+ / Mint- £169 - £179
TC-20E Converter..... E++ £119
TC-20 EII AFS Converter..... E++ / Mint- £159 - £169
TC-20 EIII AFS Converter..... E+ / E++ £199 - £229

Sigma - Nikon AF Fit

4.5mm F2.8 EX DC Fisheye HSM..... E++ £449
12-24mm F4.5-5.6 EX DG HSM..... E- £249
15-30mm F3.5-4.5 EX DG..... E- £149 - £159
17-50mm F2.8 EX DC OS HSM..... E+ / E++ £199 - £239
17-70mm F2.8-4 DC OS Macro HSM Contemporary..... E++ £239
18-200mm F3.5-6.3 DC..... E- £79
18-200mm F3.5-6.3 DC OS HSM..... E++ £149
18-50mm F2.8 EX DC..... E- £99
20mm F1.8 EX DG..... E- £249
24-60mm F2.8 EX DG..... E++ £239
28-105mm F4 DG OS HSM..... E++ £449
35mm F1.4 DG HSM A..... E++ £499
50-150mm F2.8 Apo EX DC HSM..... E- £249
50mm F1.4 EX DG..... E+ / E++ £199 - £219
50mm F2.8 EX DG Macro..... E+ / Mint- £119 - £139
85mm F1.4 DG HSM Art..... Mint- £849
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14mm F2.8 DA ED IF..... E- £349
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17-70mm F4 DA AL (IF) SDM..... E++ £239
18-50mm F4-5.6 DA DC WR RE..... Mint- £99
28-105mm F3.2-4.5 FA..... E++ £85
28-70mm F2.8 SMC AL FA*..... E- £549
28-80mm F3.5-5.6 FAJ AL..... E++ £49
35mm F2.4 DA AL..... E++ £79
35mm F2.8 DA Limited Edition..... E++ £249
40mm F2.8 SMC DA XS..... Mint- £179
50-200mm F4-5.6 DA ED..... 15 Days £29
50mm F1.8 SMC DA..... E++ / Mint- £79
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OLYMPUS OM1,2,3,4TI,10,20,30,40,
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A7S Mark II Body £2399
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A7S Body £1699
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freedomThe Sony A7 III, with newly developed
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D5

**D5 Body £5625**

D5 Body £5625

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D850 Body £3499

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£2334 inc. £275 Cashback*

D750

**D750 From £1529**

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Panasonic 42.5mm f1.7.....£299	Panasonic 45-150mm f4-5.6 ASPH OIS.....£179
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Panasonic 8-18mm f2.8-4 ASPH Vario.....£1049	Panasonic 100-300mm f4-5.6 II.....£549
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OM-D E-M5 II + 12-100mm £1649

RECOMMENDED LENSES:

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Olympus 25mm f1.2 Pro.....£999
Olympus 45mm f1.2 Pro.....£1199
Olympus 75mm f1.8.....£618
Olympus 12-40mm f2.8 Pro.....£759

E-M10 III

Black or Silver

**E-M10 III From £579**

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OM-D E-M10 II + 14-42mm £549

PENTAX

K-1 II

**K-1 II Body £1799**

K-1 II Body £1799
KP Body £999
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Pentax 15-30mm f2.8.....£1449
Pentax 28-105mm f3.5-5.6.....£529
Pentax 55-300mm f4.5-6.3.....£389

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Fujifilm 10-24mm f4 R OIS XF Fujinon.....£829
Fujifilm 16-55mm f2.8 LM WR Fujinon.....£949

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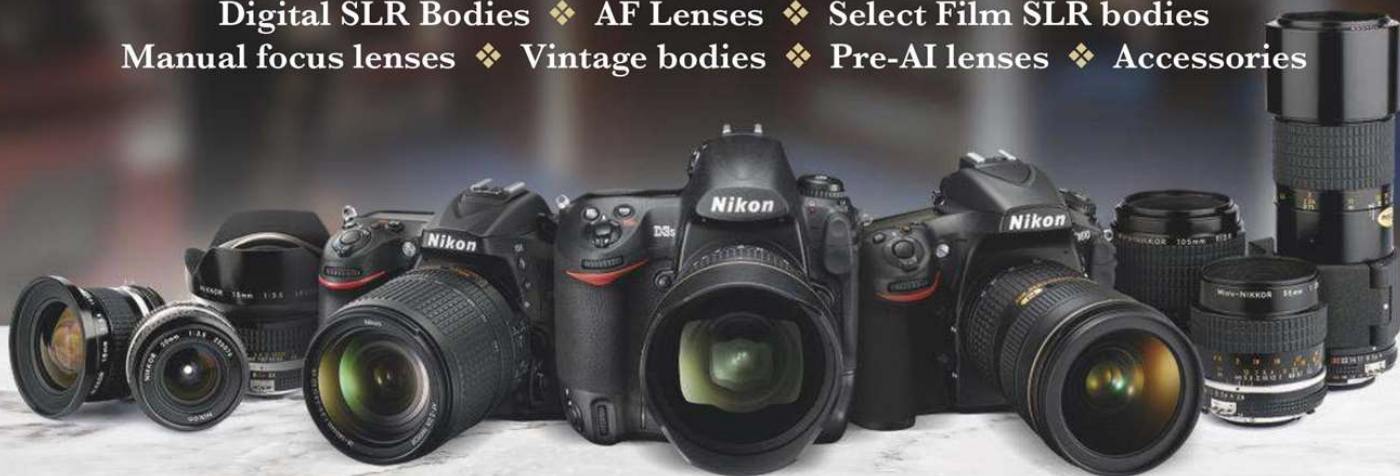
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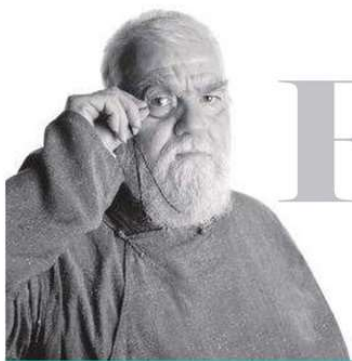
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Final Analysis

Roger Hicks considers... 'Bentley Continental GT3 Blancpain', 2018, by Jonny Henschman



© JONNY HENCHMAN

There are many ways to improve your photography, but one of the most agreeable and effective is to improve your subject matter. Concentrate on photographing what really interests you, rather than just 'a bit of this and a bit of that'. It won't necessarily work, because you can be passionate about something and still never master photographing it, and it doesn't mean excluding all else; but it gives you a head start. Jonny Henschman, motor-racing aficionado (see @fireproof.creative on Instagram), shows what happens when it does work.

Passion aside, let's try unpicking this picture. Tilting the camera is a time-honoured technique, and one that's as easy to underdo as to overdo. By instalments I rotated it back to level in Adobe Photoshop (about 20 degrees in all). Each step was less dynamic: here it looks exactly right. You can't calculate this sort of thing: you learn how to do it partly from experience and partly from looking

at other good motor-racing pictures. The car is superbly isolated, with just the right amount of context. We can see where the track goes, and there's slightly more room to drive 'into' than there is 'behind' it: a good trick with the car coming almost straight towards us. Echoing 'Blancpain' (the sponsors) in the windscreen and background is very effective too.

Patience is a virtue

Another time-honoured technique is selecting a viewpoint and waiting for the cars to come into frame. You need a surprising amount of patience for this: when you haven't got a good picture for a while, it is tempting (but rarely wise) to toddle off in search of a new viewpoint. The time to research viewpoints is before or between races, not during them.

Depth of field is modest but the car itself is surprisingly sharp. In the original you can read 'Continental' below the radiator grille, just above the green line: the word is about three-quarters as wide as one

'The photographer got it right. This is a better picture of the Bentley than any I can find elsewhere'

highlight. And yet somehow nothing seems unnaturally sharp or frozen: there is a tiny hint of the sort of movement you would expect when 500 horsepower is used to propel about 26 hundredweight (1.3 tonnes) of car. Out of curiosity, I tried adding sharpening. It didn't work; as indeed oversharpening often doesn't. The photographer got it right. This is a better picture of the Bentley than any I can find elsewhere on the web.

To sum up, it is as so often an accumulation of small things, all done very well indeed. The net result is a picture that any racing aficionado might want on his or her wall. Not just racing aficionados, either, but historians too. After all, it is a Bentley.

AP

Roger Hicks has been writing about photography since 1981 and has published more than three dozen books on the subject, many in partnership with his wife Frances Schultz (visit his new website at www.rogerandfrances.eu). Every week in this column Roger deconstructs a classic or contemporary photograph. Next week he considers an image by Thomas Brasey

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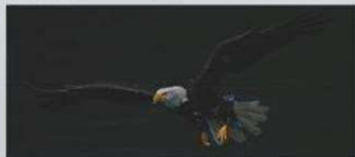
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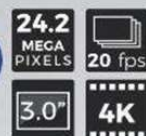
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